

Established 1840.

THE

Sixty-Fifth Year.

Southern Planter

A MONTHLY JOURNAL

DEVOTED TO

Practical and Progressive Agriculture, Horticulture,
Trucking, Live Stock and the Fireside.

OFFICE: 28 NORTH NINTH STREET, RICHMOND, VIRGINIA.

THE SOUTHERN PLANTER PUBLISHING COMPANY, - - - - - Proprietors.
J. F. JACKSON, Editor and General Manager.

Vol. 65. FEBRUARY, 1904. No. 2.

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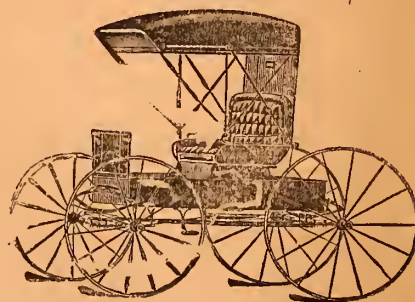
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Agriculture is the nursing mother of the Arts.--XENOPHON.
Tillage and pasturage are the two breasts of the State.--SULLY.

65th Year.

Richmond, February, 1904.

No. 2.

Farm Management.

WORK FOR THE MONTH.

We had hoped that before we were called upon to write our usual article on Work for the month for our February issue that weather conditions would in the South have returned to something like normal conditions but in this we have been disappointed. For now more than two months the land has been locked in icy embrace and the indications still are as unpromising for a change as they were at the start. For once our agricultural situation is practically the same as that of the farmer at the North. Never since the weather records have been systematically kept has the South had such a long continued spell of winter weather. The mean average temperature for the month of December was nearly 6 degrees below the normal for that month and so far January has been more severe than December. The result of this is that all work on the land has been brought to a standstill for a longer time than we have ever known, and with the scarcity of labor which is common throughout the South, much inconvenience is going to be caused, and it will be difficult for the usual areas of crops to be planted. Work will have to be rushed all through the planting season and doubtless much of the crop will be planted in poorly prepared seed beds with a consequent probability of small yields. This is a very discouraging outlook but even that does not cover all the probable loss. Wheat, winter oats and grass seeded in the fall are sure to have suffered severely as there has been little snow anywhere South to protect the plants. Possibly this may not turn out

as disastrous as we fear from the fact that the land was very dry at the time when the frost set in and there has been but very little thawing at any time during the winter, hence the land has not heaved as it would have done had it been full of water when first frozen. Usually this is the case and the heaving of the land when thawing breaks the roots and does much of the damage which follows. We trust this may turn out to be the case. If not it is possible that much of the fall seeding will have to be done over again and thus add to the press of work in the spring. Wherever land was plowed previous to the commencement of the frost it will be in fine condition for seeding without much labor as the frost will have so disintegrated it as to make it fall into a fine seed bed with a touch of the harrow. The Southern farmer has, however, one source of comfort denied to his Northern brother. The sun in February has a power which it does not acquire in the North until several months later and if we only once get rid of the cold icy blasts from the Northwest it will not take long to thaw out the land and permit of the beginning of work. When this happens not a moment of time should be lost in setting the teams to work and fitting the land for seeding oats. We have never been advocates for spring sown oats in the South as they rarely make a profitable crop but in a season like this with the probability of disaster to the fall sown crop and extra land to put in crop in a curtailed planting season, it may well be politic to sow oats in the spring and thus get some of the land out of the way and pro-

ducing something. If the crop can be seeded in February we would sow Virginia grey winter oats, but if not ready to seed until March, and we would not sow later than March, we would then sow Rust proof oats. It will pay to prepare the land well for oats and not merely to sow them on the top and plow them down as is too often done. Where the land is not in a fertile condition they should also have the help of some acid phosphate, say 250 or 300 pounds to the acre and when they commence to grow freely a top dressing of 100 pounds of nitrate of soda to the acre will help them wonderfully. The oat crop in Virginia last year was grown on 206,529 acres and the average yield was only 13 bushels to the acre or little more than one-half of the average for the whole country. This ought to be improved upon and can be if only our advice is followed and a fair season follows.

Canada peas and oats may be seeded for a grazing and forage crop as soon as ever the land can be got ready but should not be seeded later than March, as this is essentially a cool weather crop and should be off the ground before the hot weather comes or it will be worth little for either purpose. The peas mildew as soon as ever the hot weather sets in. The land for this crop should be well prepared and the peas at the rate of $1\frac{1}{2}$ or 2 bushels to the acre be seeded first and be either drilled deep or be plowed down or be worked in with a disc cultivator so as to give them a cover of 5 or 6 inches. The oats, three-fourths of a bushel to the acre, should then be sown on the land and be covered with a harrow. This crop makes one of the best early grazing crops for hogs and if not wanted for this purpose makes fine hay and comes off the land soon enough to be followed by peas or corn or another forage crop. A dressing of 250 or 300 pounds of acid phosphate to the acre will help the crop considerably and usually pays well.

Dwarf Essex Rape may be sowed this month and in March for a grazing crop for hogs, sheep or young cattle. Plow and make the land fine and sow either broadcast or in drills 2 feet apart. Three pounds of seed will be sufficient for an acre sowed in drill. Five should be seeded broadcast. This crop can only be used as green feed. It cannot be cured for winter use. The crop can be followed by a pea or corn crop the same season as it will not stand through the hot weather.

It is too early to sow any other crops than those above mentioned and therefore all the time available after these are seeded should be given to preparing the

land for other spring sown crops. All recent investigations and experiments go to support the position we have long taken up, that perfect preparation of the land before seeding the crop has more influence on the yield than the fertilizer used. The latest investigations by the experts of the Department of Agriculture go to prove that there is in all land, except the most barren, more than sufficient mineral plant food to produce paying crops for years to come and that the problem to be solved is how to make this available. It is not more mineral plant food that is needed but such a physical and mechanical condition of the soil as will result in the holding of such a moisture content as will dissolve this food and thus render it available. This can only be brought about by deep plowing, sub-soiling and cultivating the land so as to reduce it to the finest consistency and the greatest depth of soil and the filling this with vegetable matter which will hold the moisture and make the soil fitted for the habitation and working of the soil microbes upon which the availability of the plant food mainly depends. Already some few of the most successful farmers in the South have demonstrated the truth of these positions, and have either altogether abandoned the use of commercial fertilizers or still use only the particular element of plant food which they have by experiment and experience proved to be lacking in their soil. We know of one farmer farming over 1,500 acres of land who has never used an ounce of commercial fertilizer in his life, and yet he makes some of the heaviest crops of any farmer in the South, and does this with the greatest profit. The farm on which he accomplishes this was twenty years ago as poor a one as could be found in the section in which it is located. The whole improvement has been made by deep plowing, perfect cultivation, the growth of leguminous crops, and the application of the farm yard manure made by a large head of stock. These methods have put the land into fine physical and mechanical condition, and filled it with the soil microbes essential to successful crop production. The yields so produced are converted largely into beef, pork, milk and other concentrated products, or when in excess of the necessity of the place, are sold on the markets in the form produced, and the resulting cash comes back to the farm without a fertilizer bill to pay out of it. What one man has done all may do, though we fully realize that on many, probably most, farms, the use of one or more of the elements of plant food may often be found both useful and profitable, but the use of factory mixed commercial fertilizers we most unhesitatingly say is unwise and has never received any encouragement in this journal. The farmers of the

South throw millions of dollars away every year in the use of these mixed goods. Find out what element of plant food your soil needs by asking it the question in a experiment on a series of small plots, giving to one plot one element and to the others others, either singly or in combination and giving to another plot nothing but deep and perfect cultivation. In this way you will know what, if anything, needs to be supplied, and then buy that only, and save hundreds of dollars now going to the fertilizer makers for something you do not need. Our own personal experience has been always on this line. We never bought a factory mixed fertilizer in our life, and we never advise one. Do not wait until you are just ready to use the fertilizer before ordering it. You ought to have so laid out your system of rotation and crops for this season that you know now what fertilizer, if any, you will need. Order at once and then you will have it when you want to use it.

If after the frost goes some of the wheat and winter oat fields are found to be so badly injured as not to be likely to produce a paying crop instead of seeding them with spring oats break with a disc harrow or cultivator and make into a fine seed bed and sow grass and clover or grass alone on such part of the land as was enriched with fertilizer for the failed crops. Although we are not advocates for the spring seeding of grass usually, yet we think that in such a season as this, where disaster in many cases must necessarily have overtaken the fall sown crop, such a departure is justified, and if the season be at all a normal one will, if sown without a grain crop, in all probability make a stand, which will supply the place of the killed fall sown one. We have had recently a considerable number of letters from subscribers in different parts of this State and from adjoining States, approving our often expressed advice to sow grass without a nurse crop, experience having resulted in complete success where the old practice had too often resulted in failure. Grass may be seeded in the spring at any time up to the end of March. On the land not fitted to produce a grass stand, work with the disc harrow or cultivator and make fine and sow on part Hairy Vetch and oats for green forage or hay, and on other part rape (Dwarf Essex) for grazing for the hogs and young cattle. Hairy Vetch is best seeded in the fall, but we have known a good crop made seeded in the spring. These crops may be seeded from February to the end of March, but it will be useless to sow them later with any certainty of success.

Tobacco plant beds should be burnt and seeded as

soon as ever the weather will allow of this being done. We expect to see a large reduction in the area of tobacco grown in North and South Carolina in consequence of the high price and prospective high price of cotton. This should lead our growers in this State to plant more liberally as the price of the crop cannot fail, if the quality be good, to be favorably affected. Get seed of a good type like the Orinoco and Pryor varieties wherever the land is suited to these types, and in the dark shipping sections sow the seed of heavy broad leaved types, and not the long, narrow One sucker variety.

In the cotton sections we would urge that our friends should not lose their heads because cotton is now so high, and plant nothing but cotton. Make plenty of cotton, but do not fail at the same time to make provision for raising all necessary home supplies, and do not slip back into the old rut of growing cotton to buy home supplies with. Let the cotton be a surplus crop, and then it cannot fail to be a profitable one. A slipping back into the old rut means sooner or later bondage to the storekeeper and land running back into poverty again. Maintain and enhance the fertility of the land by growing peas and other forage crops, and keeping stock, and then the yield of the cotton crop will also be enhanced, and a bale to the acre will be made for less than the cost of the present average yield. Read what we have said as to the preparation of the land and the use of mixed commercial fertilizer, and act upon the advice given. It will pay the cotton planter to do so as well as the general farmer.

Make out orders for seeds required and send them to the dealers at once, and thus be certain to have your seed when you need it. Test a small sample of each seed bought, and thus be certain that you have some knowledge of what proportion of the seed will germinate, and thus have a guide in seeding. Place the sample to be tested on a piece of damp flannel in a saucer in a moderately warm place and cover with another piece of damp flannel, and the seeds will soon show what proportion will germinate.

SUBSTITUTE FOR CUTTING BOX.

Editor Southern Planter:

It may interest any one whose cutting box is broken to know that corn fodder can be rapidly cut with an ordinary buck saw and horse as stove wood is prepared. Place a bundle of fodder in the horse, hold it

with one knee and cut into any length faster than a cutting box with lever power.

Montgomery Co., Md.

OTIS BIGELOW.

The revolving cutter is now so cheap that no one having a few head of live stock ought to waste time with the old lever cutting box, or a buck saw.—Ed.

POINTS TO BE OBSERVED.

Editor Southern Planter:

How to obtain the largest net return is of all questions the most important in farm management. In the solution of this problem the farmer has others to settle—namely which crops to produce and what fertilizers to use in order to produce them. Soil, climate, geographical position, markets, transportation facilities, labor, political and social conditions must all be considered before these questions can be intelligibly answered.

In the laboratory, where chemical and physical researches are conducted, all conditions that can possibly influence results are under control or can be definitely determined, and experiments can therefore be conducted with all the accuracy demanded in the strict methods of scientific investigation.

On the other hand, in the experiments with field crops, we have to deal with living organisms, which, in the activity of their growth and development are influenced by any slight changes in their environments. Changes in location, soil and culture all have a corresponding effect on plant production.

The careful work that is done at experiment stations and on experiment farms is useful mainly for the study and definition of scientific principles, and is thus of great value and importance as a source of general information. The practical application, however, in individual cases should depend on home experiments. Here the results obtained under the existing conditions will be more definite and of far greater specific value than those arrived at under other influences.

An experiment which would pay every farmer to make, whether he farms on a large or small scale, is that of testing the improved varieties of the different agricultural plants which are being constantly put on the market. Many of them possess real merit, but just as with the different breeds of animals, they are not all adapted to the same section. Some of them which on one farm would greatly increase the profits over an old or another variety, might on another farm, only a few miles away, be a failure. The writer has had an experience of just this kind with

tobacco. On one farm a particular variety was grown very successfully, while only four miles away it was impossible to grow this variety at anything but a loss, though here another sort was grown very profitably. Like instances, perhaps not so marked as this one, are known of other farm and garden plants. If the yield can be increased by changing the variety the gain is clear, since it costs as much to grow a poor sort as it does a good one.

The farmer cannot afford to risk his whole crop, or any large part of it, with a variety which he has not tried himself. Consequently he should plant each year a few plots to some new sorts. The extra cost and labor would amount to almost nothing, when compared to the profits and satisfaction of knowing and having the best.

Some few fertilizer tests on the farm where fertilizers are used would be very valuable as well as educational. The different available elements of plant food found in the soil vary greatly in quantity according to location, formation and system of crop rotation.

No farmer can use commercial fertilizers intelligently and economically until he knows just the kinds and amounts of plant food he must apply to his soil in order to produce the most paying crop. Whenever too much or too little of an ingredient, or one which is not needed is used, he loses either in direct cash or in his crop. There is no doubt that large amounts are annually lost in this manner.

It seldom, if ever, pays to use one of the so-called complete fertilizers. It is much more economical to buy your ammonia or nitrate, phosphoric acid and potash, and apply them to the land either separately or mix at home, than to pay a manufacturer several dollars per ton for mixing an article which may be out of all proportions to your needs, besides the extra freight and cost of handling a large amount of filler which is often used.

All that is necessary for making some interesting and valuable tests are a few small plots of land, usually of one-tenth or one-twentieth of an acre each laid out on an even, level portion of the field. These plots are all broken, seeded and tilled in precisely the same manner, but are treated differently as to application of plant food. Some of the plots receive no fertilizer, others one or two or all three of the plant food ingredients and in varying proportions. The crops from each plot are harvested separately, carefully weighed, and the quality noted. Thus, the results obtained from the various plots show the effectiveness of the different fertilizer combinations in producing yield and quality, and the man who tills the soil will know

exactly what his own particular soil needs in order to produce the best crops.

MEADE FERGUSON,
Assistant Professor of Agriculture.
Experiment Station, Blacksburg, Va.

RAISING ALFALFA.

Editor Southern Planter:

A friend living in the West has written to me, stating that a land agent had offered to sell him a farm at \$10 per acre, and had told him that he could make \$2,000 yearly from 50 acres of alfalfa. My friend wants to know whether such profits are possible.

In answer to this and many other inquiries I wish to say that the future success of such an enterprise depends upon several conditions. If it is intended to sell the hay at prices yielding \$40 per acre revenue there must first be a convenient market for the hay. The price of hay depends partly upon local conditions, but is always influenced by the market prices in the nearer towns. If you live near a city like Richmond, for instance, hay will command a good price at all times, no matter whether the immediate neighborhood is in need of hay or not, because the city will consume the surplus and much more than will be raised for many years.

Perhaps more important even than a market is the condition of the soil. Alfalfa will not grow on wet, clammy land nor in poor sand or gravel. Properly cared for, alfalfa will yield large crops; improperly cared for, the profit will be small.

Taking it for granted that the land offered for \$10 is of proper quality, the next question is: How many acres are cleared, free from brush, rocks, etc. If the farm consisted of 300 acres and only 100 acres were cleared and in good condition, our friend should charge the entire price of the farm to this one hundred acres, and every acre would then cost him \$30 instead of \$10. He might, perhaps, be able to sell the other 200 acres, and thus reduce the cost of the remainder. If he is going to farm, he will have no time to attend to cutting or selling wood, lumber, etc. He will have plenty to do to get his farm in order.

If there is any ditching or laying of tile to be done, that would have to be added to the cost. And fencing will cost some money also. Another point to be considered is the state of fertility of the soil. Some lands are poor, others in fair condition. It may easily take \$10 per acre for fertilizer to make the poor land as fertile as the fairly rich soil.

Let us suppose that our friend has bought 100 acres of clear land suitable for alfalfa. If he sows a small

patch, say 5 or 10 acres to alfalfa, he will have a nice lot of green feed and some excellent hay to feed his stock, and a few tons to sell. But to make hay raising a business requires doing things on a larger scale. And if he thinks to do the work of setting the land to alfalfa little by little from year to year he will get old and gray before he gets through, because farming the other lands will keep him busy. He should put off buying stock and implements except what may be absolutely needed to work his alfalfa, and he should devote the first year entirely to that one crop. He can better afford to buy feed for his teams than to postpone working his alfalfa. Feed can be bought at all times, but well-set alfalfa fields are not for sale at any price.

Alfalfa requires well prepared and well fertilized soil. Plow the land in the spring. Have the subsoil plow follow the turning plow to loosen the soil deeply. Harrow immediately after plowing, unless too wet. Spread 20 bushels of lime and 300 to 500 pounds of rock phosphate and some potassium chloride, if the soil needs "potash." Harrow well and sow thickly to cow peas, but wait until the ground is warm enough. You can keep up plowing and subsoiling and sowing peas until June.

In July begin plowing under the first sowed peas. Disk the land in half-lap every week until September, then spread again 20 bushels of lime and 500 to 1,000 pounds rock phosphate and also some potassium chloride, if needed. If the disking has been properly done, the field should be free from weeds. Never plow the land shortly before sowing alfalfa. While alfalfa requires deeply stirred soil, the land must be well packed again by frequent working of the surface, and should be well settled. Harrow the land to a fine tilth and sow from 25 to 30 pounds of the best Western seed. If you have a press drill, 15 pounds of seed to the acre will do. If broadcasted, use a roller and follow with the smoothing harrow. Do not cover the seed too deeply, but be sure that all is covered. Infect the seed with alfalfa bacteria before sowing or infect the land. The bacteria will be furnished free by the Department of Agriculture, Washington, D. C., with instructions.

Keep everything off the field during fall and winter, even dogs, for the young plants are very tender, and will surely die if stepped upon, and there is no way of filling the gap.

Next spring and during summer mow the field every two weeks to kill the weeds. Leave the cutting on the field as a mulch, but never allow large lumps of hay or trash to lay on the field.

The following spring, if the land be dry, before the

alfalfa starts to grow, disk it lightly, setting the disks straight, following with a smoothing harrow cross-ways to keep the land level. If the land be wet, keep the disk off.

After harvesting the first crop, disk well, setting the disks to tear up the surface and to split the top roots. Follow again with the smoothing harrow. Disk and harrow again after each cutting not only to kill weeds and grasses, but also to provide a dust blanket to prevent the soil from drying out. Disking, of course, is not advisable when the ground is wet or very moist.

Each and every year supply the field with 10 to 15 bushels of lime and 500 to 1,000 pounds of rock phosphate and some potassium chloride, if the soil is in need of "potash." Stable manure can be used to better advantage on your corn field.

Cut your alfalfa whenever the field is in full bloom, but don't wait until every plant blooms, because the leaves will drop off too easily if alfalfa is permitted to bloom too long. The leaves are the best part of the hay, and great care is needed to prevent them from dropping when handling the hay. Cure the hay in small cocks like red clover. If the hay is ricked or stacked, put on covers. Never allow alfalfa to grow to seed, as it will ruin the field.

While alfalfa enriches the soil even more than clover, don't let anything tempt you to plow up an alfalfa field unless another has been set to take its place. Alfalfa will remain twenty and perhaps one hundred years if properly cared for. Be on the look out for dodder. If any appears, pull it out or mow it before it goes to seed. It does not grow from roots. Don't allow broom straw to grow to seed near the alfalfa field.

Of course, you can raise alfalfa without doing the work properly, but slipshod work always produces poor crops. You may get some sort of a crop by using less fertilizer. That reminds me of an old German farmer. He was told that agricultural science was progressing in such a way that he would soon be able to carry the fertilizer for an acre in his pocket. "Yes," he admitted, "and you can carry the crop home in the other pocket." Lands must be fed as well as animals. You know the fable of the man who left his donkey to his six sons, to be used by them alternately. The first son said to the donkey: "My brother will feed you to-morrow. You can do one day without feed." But the second brother and the others thought likewise, and on the seventh day the donkey died. Too many Virginia farms are being treated like this poor donkey.

If properly treated, alfalfa will yield from 4 to 8,

and even more, tons per acre every year. It will withstand drouth better than any other plant. If poorly treated the weeds will crowd out the alfalfa, and the crops will be poor. For the last eight years hay has never been long below from \$12 to \$15 per ton, often more. The cost of harvesting, if done with the aid of proper machinery, should not exceed \$3 per ton, including baling. And it is more than likely that the crop of any 100 acre field could be sold in almost any neighborhood without having to haul it. The cost of fertilizing and disking would probably amount to \$10 or \$12 per acre every year. Does alfalfa pay? Try it. And, by the way, do you know of a well set alfalfa field in Virginia near a large city that could be bought for \$100 per acre or for \$200 or for \$300? N.

Hanover Co., Va.

IMPROVING EASTERN VIRGINIA LANDS.

Editor Southern Planter:

I have derived much pleasure and profit from reading your reminiscences of Mr. Edmund Ruffin and other agricultural writers in your January issue. I fear much of Eastern Virginia is yet in about the same fix as it was at the time Mr. Ruffin began his experiments to find out what ailed the soil of that part of the State. Much of our lands are so wanting in lime and humus as to be almost worthless. I have sought for the reason of this lack of lime. Some five or more years ago Richmond made her gas from coal, since then she has adopted water gas. The coal gas was passed through bodies of shell lime to purify it. This lime was made at the works. Since they have made water gas they have stopped making shell lime. The lime from the purifiers accumulated in large heaps, and was bought by farmers for half a cent a bushel. It was constantly hauled and spread upon our lands, and notwithstanding some deleterious matter, it did a world of good. It made the lands improve easily, converting the organic matter into plant food. In the absence of the lime clover does not set, the lands are getting poor and acid. We must go to work and feed the soil with crops of rye in the fall, followed by peas in the spring, and haul lime, if it does cost six or seven cents a bushel, and the hauling. It will be money well spent. Twenty or thirty bushels per acre will do wonders with plenty of vegetable matter in improving our worn out soils. Crops are bringing money to our farmers, and they must be up and doing, and help to make good the defects of the soil. We must make more and better

crops. There is no use cultivating two acres to make what one will produce with a little help.

F. GUY.

Henrico Co., Va.

TILE DRAINING.

Editor Southern Planter.

The soil of my farm is decomposed, rotten, Poto-mac rock, gneiss, schist, etc., which, under water, becomes quick sand and compels in the laying of tile extraordinary care and accuracy. In ignorance of this fact, all my first laid tile ditches proved expensive failures, as they were put in as though my land was stiff Ohio clay, with which I was experienced. I found that I must ditch only when the ground was dry and solid in August, September and October; next, that the joints must be perfect, and when laid should be covered with paper or some such matter; and thirdly, the grade or slope must be accurate and uniform. To secure the latter essential, I tried various means without true success, until I adopted the following plan:

When the ditch has been dug to near its bottom, on each side, at its head and foot, stakes are driven, and to these boards are fastened with cheap quilting frame clamps, costing 10 cents each, the upper edges of the boards being seven feet above the tile bed or groove. Intermediate at intervals of from 50 to 75 feet similar stakes are driven, to which boards are similarly fastened. By sighting over the tops of the end or guide boards, perfect grade is secured. Now, over all the boards a strong twine is drawn taut, which, of course, throughout its entire length is precisely seven feet above the tile bed. The ditcher with a seven-foot measuring stick can bed his tile with perfect accuracy as to grade or slope. No engineer with his instruments can get a truer tile bed than my colored ditcher with his stakes, boards and twine. Running water has been recommended for finding bottom. This will do on stiff clay soil, but fails on my quicksand, for if the grade be, say 24 inches to the 100 feet, water will run freely, though there be a bump in the bottom of the ditch 8 or 10 inches high.

Any irregularity in the bottom of a quicksand tile ditch soon brings failure. Paper will last until the earth above the tile has firmly settled. The longer the twine the better. If the ditch be 500 feet long use a twine of that length, for then there can be no deviation from grade.

R. S. LACY.

Alexandria Co., Va.

ENQUIRER'S COLUMN.

Enquiries should be sent to the office of THE SOUTHERN PLANTER, Richmond, Va., not later than the 15th of the month for replies to appear in the next month's issue.

Nitrate of Soda—Humus.

Please inform me if there is any trouble or danger in handling "nitrate of soda" and will it pay to put on wheat that is looking very bad. Also take pity on my ignorance and tell me what is "humus" and how may a person know when there is much in the land or otherwise.

MRS. L. W. COURTNEY.

Northumberland Co., Va.

Nitrate of soda may be handled without any danger. It is like coarse salt. Do not, however, spread it on land where chickens or stock are feeding, or it will poison them. This, however, will only happen when they are on the land when it is sown. It is as soluble as salt, and will all have disappeared in 24 hours if the weather be at all damp and in less time with rain. It will help the wheat wonderfully. Apply 100 or 150 pounds to the acre just when the wheat begins to grow, not before, as the plant requires to be in an active condition, so that it can at once absorb it. Humus is simply decayed vegetable matter. You find it in all fertile soil, and is what our lands in the South need much more than fertilizer. Any vegetable matter makes humus as it decays. The darker the soil usually the more humus it contains.—ED.

Warts on Horses—Scratches.

What will take a wart off a colt? This one is upon the head between the eyes. What is good for the scratches?

WM. H. BAGBY.

King and Queen Co., Va.

If the wart is only small, clip it off with a pair of scissors and touch the place with bluestone to stop the bleeding. If the neck of the wart be very thick tie a fine silk thread round it and keep drawing tighter until the wart drops off or burn it off with bluestone or caustic.

For scratches, give a laxative ball of 5 drams of aloes. Wash the legs well and wipe dry, and then apply vaseline 1 ounce, sugar of lead 1 dram, and carbolic acid 10 drops mixed together.—ED.

Silo Filling—Silage.

1. In filling silo, what power is necessary to make reasonable progress in cutting and elevating, say 15 feet?

2. Will the silage keep well in the South, and in case not all used, will it keep over summer for next winter?

3. Will bamboos grow well in North Alabama? What are the principle uses? What is known as to their value in the States? L. T. AYRES.

Winnipeg, Canada.

1. A 5 or 6 horse engine with cutter and blower is necessary to make good progress.

2. Yes.

3. We are unable to give you definite information as to bamboos. Some of the varieties are said to be hardy as far north as Philadelphia. We believe the Department of Agriculture has published some matter on this subject, but cannot put our hands on it. Write the Department at Washington.—ED.

Crops for Hogs.

1. What can be grown in the spring of the year that will come in and make the earliest pasture for hogs?

2. Could you sow rape and oats together and after cutting the oats have the rape for hog pasture?

3. Would I get a stand of clover by sowing the three together, or could I sow rape and clover together?

4. Can I get a stand of crimson clover and red clover together or would one smother the other out?

5. Please give me what would be the best succession of green crops for hogs during the summer, and which may be the best way to feed; to cut and give to the hogs, or to turn the hogs in and let them eat them down.

A NEW ENQUIRER.

Albemarle Co., Va.

1. Canada peas and oats sowed together, or rape will make the earliest pasture for hogs of anything that can be sowed in spring. Sow as soon as the weather will allow. In this issue will be found advice as to these crops.

2. Rape should be sown alone to make the best yield. You cannot sow rape and oats together and cut the oats for a crop. If sown together they will have to be pastured.

3. No.

4. We have known crimson and red clover sown together and make a success, but the crimson is very apt to kill out the red.

5. To make a good succession of crops for hogs, work should begin in the fall by sowing crimson clover and oats and wheat together in one plot, and hairy vetch and oats and wheat in another. These should be followed by rape in another plot sowed in February or March. Then should follow artichokes planted in March or April for winter feed. In May soy beans, cow peas and sorghum should be sowed, and in June corn and sorghum. These several crops will then come in in order to supply feed for the hogs

the whole year. The hogs should graze all the crops except the sorghum and corn, which are better cut and fed to them.—ED.

Diseased Fowls.

Will you kindly give me a remedy for my fowls? They have a disease something like the gapes. They are continually clearing their throats.

Henrico Co., Va.

A SUBSCRIBER.

Your hens have got a slight attack of roup from sleeping in cold, drafty quarters. Catch those affected and confine them to themselves and wash out their nostrils and throats with comphorated oil or kerosene and give them a small quinine pill each. Continue the treatment for a few days, when they should be all right. The disease is like an influenza cold, infectious.—ED.

English Blue Grass—Hungarian Brome Grass. Coculus Indicus.

1. Owing to the cold dry fall and hard freezing weather we have had this winter I fear our fall seeding of grass has been killed. I wish to try sowing Randall or English blue grass on land I sowed in wheat last fall. The Breeder's Gazette recommends sowing blue grass in January and February on land that has been seeded to wheat. Please tell me if you think a stand of English blue grass can be gotten if seeded in these months?

2. Where can coculus indicus (fish berries) which you recommend for lice on cattle be bought?

3. Will Hungarian or Awnless brome grass come if sown on wheat land in this or next month?

Fluranna Co., Va.

J. S. PAYNE.

1. All the grasses do better in the South seeded in the fall, but when fall seeding fails we should not hesitate to sow in the early spring. February and March are the best months. Harrow the wheat and then sow the grass seed, and if dry enough roll; if not, leave as harrowed.

2. You can get the berries named at the drug stores.

3. Hungarian Brome Grass has succeeded well in this State sown in the fall. Like all the other grasses, it does better and is more certain to make a stand sown alone, but will sometimes succeed with a grain crop. Sow in February or March as directed for Randall grass.—ED.

Sheep Pulling Wool—Lump on Cow's Jaw.

1. What is the disease that causes sheep to bite at their wool, and pull it out? Please give remedy.

2. I have a cow that has had a swelling or lump on lower jaw, for five or six months. It seems to gather

and burst sometimes. She keeps a good appetite, but she is losing flesh and seems to be on the decline. Please give me disease and remedy.

Charlotte Co., Va.

SUBSCRIBER.

1. The sheep have lice on them, and should be dipped in one of the sheep dips, which you will find advertised in our columns frequently during the year. Laidlaw, McKill Co., of Richmond, Va., make one of the best dips.

2. The cow is very probably suffering from the disease called *Actinomyces*. Iodide of potassium is the remedy for this. Give one and a half drams of the drug daily in one dose dissolved in a pint of water until improvement is noticed. Then decrease the dose to one dram. Usually in about ten days the disease is cured.—ED.

Devon Cattle.

Would like to know through your paper your opinion of the Devon breed of cattle, also where they can be bought.

E. J. PANNILL.

Henry Co., Va.

The Devon breed of cattle whilst not now very popular, is a breed that has many points of excellence to recommend it for certain sections. It is a breed that will do better on thin, rough, stony highlands than almost any other, as the cattle are easy keepers and very hardy. They make the finest of working steers, as they are more active than most cattle, and yet strong and wiry. The steers also make good beef, although they do not attain to a very heavy weight. They are also useful milch cows in such sections as we have indicated. M. B. Rowe & Co., of Fredericksburg, Va., advertise them in our columns.—ED.

Utilizing Bones—Coffee Grounds—Soy Beans.

1. What is the most practicable and economical way to utilize bones for fertilizer?

2. Have coffee grounds any value as a fertilizer?

3. How do soja beans compare with cowpeas for broadcast sowing for improving the land and making hay? I am well pleased with the soja bean as a cultivated crop. The only drawback to the crop is the difficulty in cutting them, as I have not been able to cut them with a mower, but have to use a stub scythe.

I regard THE PLANTER as the standard of excellence in Southern agriculture, and look eagerly for its monthly visits.

J. W. BRYAN.

Wayne Co., N. C.

1. Bones are difficult to utilize for fertilizer in any other way than by grinding them in a mill, and this requires much power. They may, however, gradually be made available by making a trench in clay

ground and putting in a layer of the bones and then a layer of wood ashes until the trench is full, and then making them moist with water and keep them in this condition until they become soft and so that they can be mixed with soil.

2. We can find no analysis of coffee grounds. We do not suppose they have any fertilizing value other than as so much woody fibre, which, as it rots will add that much vegetable matter to the soil.

3. Soy beans make an excellent hay crop but even for this purpose they make a better yield sown in drill wide enough apart to allow of being worked once or twice. They will then on land of fair fertility soon cover all the land. They may be cut with an old short bladed mower, cutting one row at a time. We know several growers who keep their oldest fashioned mower for this purpose.—ED.

Worms in Hogs.

We have a number of enquiries as to what to give for worms in hogs. Give half an ounce of turpentine for each hog in the feed every day for a week.—ED.

Broom Sedge in Orchard.

I have a wine sap apple orchard which is badly taken with broom sedge, would it injure the trees to burn it?

R. T. MASSEY.

Westmoreland Co., Va.

We would not advise burning broom sedge in an orchard. It might result in serious injury to some of the trees. Plow the sod and keep the orchard in cultivation until July and then sow crimson clover and a few oats, say 12 pounds of crimson clover seed and three-fourths of a bushel of oats per acre. This will smother down all weeds and make a crop which will feed the trees. Let this crop die down on the land and then plow under, make fine, and seed to grass in August or September.—ED.

Draining Land.

Will you kindly give me in the February issue of THE PLANTER the cheapest and best mode of underdraining wet land. I have used chestnut poles covered with strong chestnut plank which is convenient but muskrats can easily choke up a ditch or turn it when material of this kind is used.

Nelson Co., Va.

R. L. CAMDEN.

The only means of making a permanently good job of draining land is by the use of drain tile. These when properly laid with sufficient fall and good clear outlet will practically last forever and are rarely stopped up. The only thing which interferes with them are the roots of trees which sometimes go down

deep enough and find their way through the joints and then increase in size until they stop the drain. The roots of willows are usually the worst for doing this. The cost of doing tile draining depends largely on the facility for getting the tiles. Unfortunately they are not made in many places in the South and hence are burdened with heavy freight charges. If tiles are to be had at a near point the cost should not exceed \$20 per acre.—Ed.

Improving Mountain Land for Orchards—Seeding to Grass.

We have a mountain place some 1,800 feet elevation in Northern Virginia on eastern slope of Blue Ridge, soil red clay intermixed with gravel, with considerable quantity of loose stone on surface, which we are clearing of the forest growth and planting to apple and peach. We wish to keep up fertility without using commercial fertilizer and give good cultivation to the trees. Have tried cowpeas but they do not do very well, seems to be too cool for them. Corn ripens very slow and soft. The fodder makes good growth. Would Canada peas be likely to do better than cowpeas on this place? Have a lot of some ten acres we wish to get in blue grass to pasture our mules and cows. Would it be well to sow this to Canada peas and oats this spring, and sow rye with blue grass in August or September? SUBSCRIBER.

Rappahannock Co., Va.

The Canada Pea sown with oats will no doubt suit your conditions much better than the cowpea. Canada peas are natives of a cool climate and the difficulty we have in growing them successfully in the central plain and coast sections of the Southern States is occasioned by the great heat of the early summer. To grow them here they should be planted in January or February and be cut in May. In your mountain land you will grow them successfully sown in March or April and they may be either cut or grazed down. For your purpose of improving the land they should be grazed in the summer. Sow two bushels of peas and one bushel of oats per acre.

We would sow the blue grass in August after the pea crop has been plowed down and the land been well prepared. Sow the grass alone or with a very light seeding of rye. We prefer sown alone.—Ed.

Cross-breeding Sheep.

I am a breeder of Shropshire sheep and find difficulty in getting them to breed in time for early market lambs, and have been contemplating purchasing some Dorsets to cross the Shropshire bucks with.

Kindly tell me if the first cross could be used for early breeding with any success.

Florence, Md.

J. N. WARFIELD, JR.

We do not advise the cross breeding of Shropshires and Dorsets or indeed of any pure breeds. A cross of pure bred animals is always an uncertain factor. The prepotency of these pure bred animals is great and what the result of a cross under such circumstances may be no one can tell. As both Shropshires and Dorsets are very prepotent it is especially uncertain what the result of a cross would be. We would prefer to use Dorset bucks on grade Merino ewes rather than on the Shropshires to get the results desired. We know this to be a success and the second and third cross will give sheep practically Dorsets in appearance and early breeding propensity.—Ed.

Bermuda Onions.

Can you give me any information in regard to the Bermuda onion?

1. How are they propagated, from seed or sets like the hill onion?

2. Can you tell me how to plant and cultivate them.

A SUBSCRIBER.

Roanoke Co., Va.

Bermuda onions like all the Spanish and Italian varieties are grown from seed which may be sowed either in the fall or spring. The most certain way is to sow the seed in a gentle hot bed and then when the plants are big enough to handle to set them out on the bed where they are to grow in rows wide enough apart to allow of cultivation and about 4 or 5 inches apart in the row. When the plants are raised in the fall they should have the protection of a cold frame during the winter and should not be set out in spring until the weather becomes mild.—Ed.

Cocke's Prolific Corn—Maize.

Where can I get some Cockes Prolific Seed Corn and the price of it per bushel? Where can I get maize seed?

T. L. ASHBURN.

Northumberland Co., Va.

You will find Cockes Prolific Corn offered in our advertising columns and it can be had from T. W. Wood & Sons, Richmond, Va. Maize is simply the botanical name for corn.—Ed.

Cocke's Prolific Corn—Lime—Earliana Tomato.

1. Of whom can I get Cockes Prolific Corn, as I wish to plant some of it this year? I see it is highly recommended in SOUTHERN PLANTER. Of whom can I get the Spark's Earliana tomato seed?

2. What is the difference in the agricultural strength in Lee's prepared lime, oyster shell and rock

lime? I wish to lime about sixty acres this spring and I wish to use the kind of lime which is best, taking into consideration the cost. P. S. SIMMONS.

Prince George Co., Va.

1. You will find Cockes Prolific Corn and the Earliana Tomato advertised in this issue.

2. There is no difference in the chemical composition of rock lime and oyster shell lime. They are both carbonates of lime and either may be used with advantage. Lee's prepared lime is made from a private formula and we do not know its chemical composition but know that many farmers use it with success.—Ed.

Hog Pasture.

Will rape, if sown in February, mature sufficiently by the first of April to pasture hogs on and how long will it last if not grazed too closely? I have a two-acre lot which I wish to seed to something for spring and summer pasture for hogs. I wish to pasture them from about the first of April to the first of August. The entire two acres is under one enclosure. What would you advise? T. T. FRAZIER.

Durham Co., N. C.

We know of no single crop which you could now plant which would give you grazing for your hogs from April to August. If you had seeded crimson clover, oats, wheat and rape together in the fall on half the land this would have made grazing to June and the other half seeded to cowpeas in May would have given good grazing in July and August. Rape sown now should give grazing by April but the crop does not usually stand the hot weather of summer. Perhaps the best course would be to seed half the land in rape, five pounds to the acre broadcast, as soon as possible and then seed the other half to cowpeas or cowpeas and sorghum in May. Together this combination would give you the grazing you seek.—Ed.

Pecans.

1. I have about 10 acres I want to put to pecans. Would it pay me to get seedlings at \$6 per 100 and graft twigs from the best varieties into them, when I can get trees of the best varieties at 70 cents per 100?

2. Which variety would you advise me getting to realize the most from my orchard?

3. Can you give me the recipe for making grafting wax? J. R. REAVES.

Latta, S. C.

1. We presume you have made a mistake in this question. We assume that you mean "best varieties at 70 cents each." We would buy trees of the best varieties even at 70 cents each in preference to seed-

lings at \$6.00 per hundred. Seedlings are very uncertain in their production.

2. We believe you would realize more and more quickly from the trees than the seedlings grafted.

3. Grafting wax is made of three parts of rosin, three of beeswax and two of tallow, melted together.

—Ed.

Seeding to Grass.

We are working on a hillside with the object of seeding it in grass as an extension to our lawn. It has been washed by rain, leaving upper part of very poor, red soil. We are treating this hillside as follows:

Dumping wagon loads of compost made last year in piles convenient for spreading also making more compost from last year's fall of leaves. In these compost heaps we have used acid phosphates freely. A small lot of sheep in a moveable pen were started on the hillside the latter part of October. In addition to this the hillside is now about half covered with barnyard manure, which we haul and spread as convenient. We are still further hauling good soil from bottom land, where we can spare it, and placing in heaps ready to spread. Our intention is to plow shallow as possible in the spring, after spreading compost and soil, and follow plow with subsoiler and harrow. The article in your October number convinces me that lime should be applied, but I am at a loss to know the best time and method of applying it in view of the progress already made.

Any advice you can give will be appreciated.

Transylvania Co., N. C.

A SUBSCRIBER.

Now that you have got manure on the land it would not be wise to apply lime as it would release the ammonia which the grass will need. We think you will succeed in getting a stand and can then give a top dressing of lime next fall and harrow in lightly.—Ed.

Oyster Shells.

Would ground oyster shells be as suitable and as readily available for our coast soils as burnt and slacked lime? F. M. SNEPP.

Harrison Co., Miss.

Ground oyster shells would be just as effective as ground rock lime but neither are so effective as burnt slacked lime. Ground rock lime is being used quite extensively in some sections and whilst slower in its action is being found effective. The grinding, however, requires to be very fine.—Ed.

Windbreak.

1. I live about eight miles east of Richmond and would like to plant some evergreens for a windbreak. What do you consider the most suitable for this cli-

mate? Will Norway spruce, hemlock or American arbor vitae do well here?

2. What bamboos are hardy in this latitude, where the scuppernong grape grows wild? Mr. H. Dreer states that B. Turea, B. Metake, B. Nigra and B. Simoni are hardy at Philadelphia.

Hanover Co., Va.

JOHN FLICK.

1. Norway spruce will answer best though it is not apt to be very long lived in this State. Hemlock will grow but takes a long time to make a break. There are one or two species of foreign arborvitae which have been recently introduced by the Department of Agriculture which appear likely to make good wind breaks. They are Italian species. The American arborvitae does not do well in the South.

2. We cannot advise you as to the bamboos. We believe the Department of Agriculture issued some information on these plants sometime ago but we cannot put our hands upon it just now. A letter to the Department at Washington might get you this.—Ed.

Grass for Name.

Please give the English and Latin names of the enclosed grass. Also state if it is good for forage.

Richmond Co., Va.

M. C. LEWIS.

The botanical name of the grass is *Panicum clandestinum*. We cannot give the English name as it is known locally by various different names. It is not known to have any forage value but experiments will be made by the Department of Agriculture to test this.—Ed.

Kaffir Corn.

Please give me some information in the columns of your paper concerning the cultivation, harvesting and threshing of Kaffir corn. It is said to be raised extensively in Kansas. Why does it not figure more frequently among our crops here? How much does the grain weigh per bushel? Also kindly state the proper way to harvest and gather soja beans not for hay but for the beans? To revert to the Kaffir corn—is it safe to feed horses the grain in the plumes, unthreshed?

ENQUIRER.

Middlesex Co., Va.

Kaffir Corn is one of the non-saccharine sorghums. It has frequently been grown in this State, and with great success. We always advise that some should be planted for a forage crop, as whilst it is not quite such good feed as the saccharine sorghums, like the Early Orange or Early Amber, yet it is more certain to make a crop in case of a drouth. In the drouth sections of Kansas and other Western States it is largely taking the place of corn. The grain is as

good as corn. It is usually threshed like wheat, and the grain ground or fed whole. It is less wasted when ground, as unground much of it passes through cattle undigested. It will succeed anywhere in the South. It is planted, worked and harvested like corn, but may be dropped closer in the rows. The grain weighs 50 pounds to the bushel.

Soy beans are harvested for the beans by cutting with a short bladed reaper or scythe and set up in shocks to dry and cure out like wheat or oats.—Ed.

Stock on Wild Range Near the Seacoast.

I want to run a mixed herd of cattle, horses, sheep and goats on wild land with grasses, reeds, rushes and shrubs for pasturage. Part of the land is high and part low and wet. Do you think it would be well to have such a mixed herd?

CLOSS GIBBS.

Hyde Co., N. C.

This is a subject on which we hesitate to advise, as its success will depend so largely on local conditions, as to pasturage, etc. We doubt, however, whether it would be advisable to attempt to run sheep on such a range. A limited number of cattle, horses and goats might succeed.—Ed.

Forage Crops.

My farm is situated at the junction of and between the James and Warwick rivers, Mulberry Island, Va. Upon it has been raised, for many years, corn, peanuts, potatoes, etc., also live stock such as sheep, cows, horses and hogs. Having set aside sufficient land to raise corn for horses, hogs and poultry and wishing to simplify the farm work kindly request you to let me know what you consider best to plant, as forage, where corn or peanuts have been raised.

Warwick Co., Va.

P. LEDERHOS.

Plant soy beans, cow peas, sorghum, teocinte and millet (Cat Tail, German and Hungarian). Any or all of these crops will make fine forage.—Ed.

East India Giant Clover.

I would be glad to learn about the "East India Giant Clover" (*Polygonum sacalinense*). It is described in Encyclopædia Britannica, Vol. 26, page 680. Where could I get the seed of it?

Halifax Co., Va.

WM. M. PANNEBAKER.

We know nothing of this plant. Write the agronomist of the Department of Agriculture at Washington for information on the subject.—Ed.

Varieties of Apples and Peaches to Plant in Western North Carolina.

Would be glad to know your opinion of the best apple trees to plant in these mountains, Brevard (20

miles from Hendersonville), King, Albemarle Pippin, Winesap, Belle Flower (yellow), Maiden Blush, Limbertwig.

What is the best peach tree for this locality?

Transylvania Co., N. C. H. E. TENER.

For summer apples we would advise Early Harvest, Red Astrachan and Yellow Transparent. For late summer and early winter, Bonum, Carolina Beauty and Rome Beauty. For winter, Arkansas Mammoth Black, Ben Davis, Limbertwig, Winesap, Nansemond Beauty and York Imperial.

Peaches for very early, Alexander and Sneed. For early, Bishop and Early Crawford. For medium, Elberta, Oldmixon Cling and Free, and Stump. For late, Bilyeu and Smock.—Ed.

Cotton Seed—Cotton Seed Meal—Stable Manure.

Kindly give the relative value of cotton seed and horse stable manure as a fertilizer. Is a ton of cotton seed worth as much as a fertilizer as an equal quantity of cotton seed meal?

Perquimans Co., N. C. THOS. N. WHITE.

The analysis of cotton seed gives on an average 3.13 per cent. of nitrogen, 1.27 per cent. phosphoric acid, and 1.17 per cent. of potash. The analysis of an average sample of cotton seed meal gives 6.64 per cent. of nitrogen, 2.68 per cent. of phosphoric acid and 1.79 per cent. of potash. The analysis of an average sample of stable manure gives 0.50 per cent. of nitrogen, 0.60 per cent. of potash, and 0.30 of phosphoric acid. The statement, however, of the actual content of the chemical plant food in stable manure does not give a true estimate of its actual value as an improver of the soil, as in addition to the value of the chemical plant food manure adds humus to the soil, which is often more valuable in the improvement it effects than the actual plant food supplied. Manure also promotes the growth of microbic life in the soil, and without this there can be no great fertility.—Ed.

Book on Truck Growing—Fertilizer for Cabbages, &c.

1. Will you kindly tell me what is the most complete and best book on garden work for Virginia and what is the price and where can I get this book?

2. Will you tell me how much night soil and hard wood ashes to mix to apply per acre in the drill for cabbage and for all kind of garden vegetables?

Dinwiddie Co., Va. WEBSTER.

1. Truck farming in the South, by Oemler, is about the best book published for this section. Price, \$1.00. We can supply it.

2. Wood ashes should not be mixed with manure or night soil, but be applied alone. When mixed, they have a tendency to waste the ammonia. They are valuable mainly for the potash they contain (about 5 per cent.). They may be applied with advantage up to 1,000 pounds to the acre for vegetables. Night soil contains 0.80 per cent. of nitrogen, 0.30 per cent. of potash, and 1.40 per cent. of phosphoric acid. It is not, therefore, very valuable as a fertilizer, and should be supplemented by some nitrogen and phosphoric acid when used with wood ashes to make a balanced fertilizer. Mix with it 300 pounds of acid phosphate per acre, when applied, and give a top dressing of 100 pounds of nitrate of soda per acre when the plants start growing and then you will be likely to make vegetables of all kinds.—Ed.

Improving Land.

Is there any quicker way of improving land by crop rotation than sowing rye in the fall to be turned under or pastured down in June, then sow in peas and turn under or pasture down in the fall?

Roanoke Co., Va.

E. E. ENGLEMAN.

Yes. You can improve the land faster by growing crimson clover or hairy vetch sowed with wheat, oats and rye mixed in the fall. Rye adds nothing to the soil except some vegetable matter, but conserves any nitrates in the soil, and to that extent only is useful as an improver. Crimson clover and hairy vetch add nitrogen to the soil taken from the atmosphere, and more vegetable matter than rye. These crops can be plowed down in May or June, or can be cut for forage, be made into hay, or be grazed off, and then be followed by cow peas or soy beans, which will add still more nitrogen to the soil as well as vegetable matter, and thus rapidly and permanently improve the land. To make the best progress, these leguminous crops (clover and vetch) should be helped with some acid phosphate, say 200 or 300 pounds to the acre, so as to ensure a heavy growth, and thus smother down all weeds and shade the soil. The shading is important, as it largely tends to the acquisition and conservation of nitrogen. A dressing of lime, 25 bushels to the acre, applied after the cow peas or soy beans are turned down, and before seeding the crimson clover or hairy vetch, will also greatly help the work of improvement by creating an alkaline condition of the soil, which is conducive to the multiplication of soil microbic life, and to the growth of clover especially. We have known a piece of land so improved by the growth of these crops for two years as to yield an increase in the corn crop the following

year of 25 bushels, and of wheat 10 bushels, with a good stand of grass and clover to follow.—ED.

Tobacco Fertilizer.

Please give amount of ammonia and potash (and in what form) to be added to Peruvian Guano to make it a well balanced fertilizer for tobacco.

OLD SUBSCRIBER.

Prince Edward Co., Va.

The only thing needed to be added to genuine Peruvian Guano to make it a complete tobacco fertilizer, and even that is not absolutely necessary, is some sulphate of potash. We would add 50 pounds of sulphate to the ton of Peruvian Guano. For some years it has been difficult to get Peruvian Guano, but Messrs. Mortimer & Co., of 13 William street, New York, are now appointed agents for it in this country, and are importing it in ship loads. We have just received particulars of the analysis of a cargo just landed. As tested by the Pennsylvania Experiment Station, this analyses 16.22 available phosphoric acid, 4.82 potash, and 4.37 ammonia, with, in addition, 7.20 insoluble phosphoric acid. The insoluble phosphoric acid in Peruvian Guano is much more readily available than in acid phosphate, and is comparable with the phosphoric acid in bone in this respect. We believe this Peruvian Guano will grow good tobacco without any addition of potash on our lands. Messrs. Mortimer will gladly quote prices delivered in this or other States on this guano, and on all other chemicals required for mixing fertilizers.—ED.

Sores on Mules' Backs.

Can you recommend any remedy for knots and raw places of long standing on mules' backs?

FRANK PURYEAR.

Chickasaw Co., Miss.

If the wounds are of so long standing as to have become sit fasts, the hard portion must be dissected out with a knife and then the wound be treated with a weak carbolic acid lotion. Keep the harness from pressing on the places by pads until healed.—ED.

Brussels Sprouts.

Please tell me in your next issue when and how to grow Brussels Sprouts from seed.

Alexandria Co., Va.

A. BOWIE.

Raise like late cabbage plants and set out, manure and cultivate just like late cabbages.—ED.

Weeder in Cotton.

I would like to know if a "weeder" can be used with safety and to advantage in a cotton patch. If

so, when? The flat tooth is the sort I have. My experience with cotton is that when young it is very tender, easily bruised and thrown down, and when down seldom regains the erect position. Would not running the weeder over field just before cotton comes up kill many germinating seeds and result in a bad stand?

GEO. S. BAKER, JR.

Franklin Co., N. C.

We should hesitate before putting a weeder into a cotton field. The young plants are too tender and too easily buried to risk such rough usage.—ED.

Improving Land.

I am just starting in the farming business, and would be very highly appreciative of some advice relative to same. My farm, consisting of about 500 acres, 100 of which is cleared, but only about 60 in a tillable condition; has been "miss-farmed" for the last twenty years by tenants, and consequently is in anything but good condition. Have both red land and sandy land, former predominating. Planted 15 acres in wheat, 5 in oats, and used 200 to 250 pounds potash mixture, 10-2 and 12-3 per acre. Was advised by farmers in neighborhood that I was using too much. They use 100 to 150 pounds per acre. Any general advice as to crops, seeds, etc., that you may give me will be thankfully received.

THAD. S. TROY, M. D.

Randolph Co., N. C.

If you will carefully read and follow the advice given each month in the *PLANTER* you will soon see an improvement in your land, and get profitable crops. What your land needs more than fertilizer is humus in the soil. Do not attempt to make staple crops until you have improved the land by growing cow peas, crimson clover and hairy vetch. When you have got plenty of humus into your soil you can profitably use commercial fertilizer in the form of acid phosphate, not at the rate of 100 or 200 pounds to the acre, but at the rate of 500 pounds to the acre.—ED.

Cow Pea Hay.

I wish to sow a crop to cut for hay. Could I sow a mixture of cow peas and oats? If so, which would be best, spring or winter oats? Please answer in next issue..

NEWCOMER.

Nottoway Co., Va.

You cannot sow cow peas and oats together. Oats should at latest be sown in March, better in February, or better still, be sown in the early fall in the South, whilst cow peas cannot be sown until May. They will not grow until the ground becomes warm. For a hay crop, cow peas and sorghum can be sown together. They make good feed.—ED.

Trucking, Garden and Orchard.

WORK FOR THE MONTH.

The long hard winter we are passing through has caused a complete suspension of all outdoor work and where in an ordinary winter much of the work of preparing the land for the spring crops has been already done, now everything is as it was left in the fall. This is going to cause a great accumulation of work and it will require the strictest economy of time to be exercised when once the season opens. We trust, however, that the work of preparing compost and manure for the crops has been receiving attention during the hard weather. This is work that could well be done and with good effect on the subsequent results. Farm yard manure, woods mould leaves should have been gathered together in heaps in the different fields and have been well mixed together and had acid phosphate and muriate of potash mixed with them. These mineral fertilizers are much more effective when thus mixed than when applied separately just previous to the planting of the crop. They require time to become assimilated with the other manure and soil to do their best service. Farm yard manure whilst the most valuable of all forms of fertilizer in that it supplies both plant food and humus to the soil and also tends largely to the introduction of microbic life into the soil, yet lacks in the mineral forms of plant food to be a full ration of feed especially for truck and garden crops. Up to 1,000 pounds to the acre of acid phosphate and 200 pounds of muriate of potash to the acre may with advantage be applied along with a heavy dressing of farm yard manure and compost to land intended to be planted to all vegetable crops. In addition to these nitrogen in the form of nitrate of soda, say from 100 to 150 pounds to the acre, may also be applied with advantage to all crops except English peas and snap beans. For these two crops only a light dressing of nitrate should be given as it is, has a tendency to make them run too much to vine. Indeed these two crops almost invariably do best on land manured for a crop the previous year as on an Irish potato fallow or a cabbage field. In such a place they will make a good yield without any further manure being applied.

It is too early yet to plant any crops except in Tidewater Virginia and Eastern North and South Carolina. In these sections English peas and Irish potatoes may be planted during this month if the weather becomes mild and the land is dry enough to work freely, but do not attempt planting on wet land

nor even working the land. Land worked wet will show the result all through the crop season and can never be made a satisfactory seed bed. English peas should be planted in drill 2 feet apart, and be given a good covering of soil, say 4 or 5 inches. Scatter the peas thickly in the drill and tread or roll firmly into the soil before covering. Irish potatoes should not be planted much before the end of the month and not then unless the weather is mild. They are very susceptible to damage from frost if they break through the land before freezing temperatures are past. Instead of planting them too early it is a good plan to get out the sets and spread them thinly on a dry barn floor where frost will not hurt them and there let them commence to sprout. They will make short hard sprouts which will not easily damage when handling them for setting and will then come up much more quickly when planted in the soil. The land for this and indeed all other truck crops should receive the best of preparation before planting. What we have said in reference to this matter of preparing land in our article on "Work for the Month" for the farm applies with still greater force to truck crops. More depends on the perfect preparation of the land than on the fertilizer. Irish potatoes are one crop which can usually be grown more successfully with commercial fertilizer than with farm yard manure. Farm yard manure is especially apt to cause scab on the tubers and will certainly do so wherever there has been scab on the last crop and any of the vines or small potatoes have got mixed with the manure. Wherever there is any indication of scab on the sets they should be dipped either in a solution of formaline or corrosive sublimate before being planted. When using the corrosive sublimate solution be careful to keep it and the dipped tubers out of the reach of men or animals as the solution is very poisonous. The proper strength to use the corrosive sublimate solution is 2 ounces of sublimate to 15 gallons of water. Dissolve the sublimate in hot water and then add cold to make up the quantity. The solution may be used for dipping repeated lots of potatoes until all used up. Dry the sets and then cut them. Cut the sets just before planting and not in quantity before needed. Do not cut to less than two eyes. As a fertilizer for the crop mix

300 pounds of nitrate of soda,
600 pounds of cotton seed meal or fish scrap,
800 pounds of acid phosphate (12 per cent.).
300 pounds of muriate of potash.

to make a ton and apply at the rate of from 500 to 1,500 pounds to the acre. If only 500 pounds or less is used apply in the drill mixing well with the soil before dropping the sets. If more than 500 pounds is used apply broadcast.

Sow small patches of lettuce, radishes and other early salads in sheltered spots or where they can be protected with brush or mats in case of frost.

Lettuce in frames should be getting ready for market. Give air in all mild weather but see that frost is excluded. As the plants are cut fill in other plants from the fall sown seed beds.

Asparagus beds should be worked over and be covered with well rotted manure and good soil to the depth of 10 or 12 inches. New beds may be set out in March. The land should be got ready now by being deeply worked and the trenches be thrown out to the depth of 2 feet if possible by running the plow two or three times in them, throwing out the soil with a shovel. Throw the top soil to one side and the bottom soil to the other side of the trenches. Put two or three inches of the top soil into the bottom of the trench and set the plants on this and cover lightly with more of the top soil then spread the bottom soil between the trenches. The trenches should be from 4 to 6 feet apart. Set the plants as soon as received from the growers.

Spinach and kale may be sown where the crop is to mature towards the end of the month. Sow in rows 2 feet apart. Cabbage seed may be sown in cold frames for plants to follow the fall set crop.

Prepare material for making hot beds for raising tomato, egg and pepper plants.

PECAN TREE NOT BEARING NUTS.

Editor Southern Planter:

Inquiry having been made through your journal by Mr. J. W. Lewis, of Horry county, S. C., for some remedy by which unproductive pecan trees can be made to yield abundantly I take pleasure in offering a remedy which I have tried with splendid results. Some time before the sap begins to rise he should take an axe and chop the tree *perpendicularly*, several times, carefully, however, so that no damage is done

to the tree. Pecan trees become hide-bound and this is the cause of their failure to bear. Chopping relieves the congestion, and enables the tree to produce.

I have a tree probably 50 years old, which for a number of years scarcely bore at all. Two years ago I chopped it slightly, as a test, and it bore probably three pecks of pecans. Last year I chopped it again and the result was a yield of about a flour barrel of pecans. January or February are good months in which to chop trees. I have chopped pear trees also, with good results. If the South Carolina correspondent desires more explicit information he can write me.

JAMES B. LLOYD.

Tarboro, N. C.

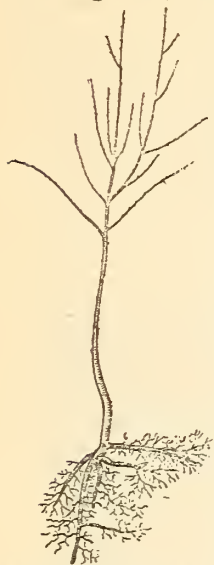
PRUNING AND TRAINING FRUIT TREES.

Editor Southern Planter:

A safe rule to follow in pruning trees is to cut no limb off without being able to give a good reason for it. One should also be able to predict the effect such an operation would likely have upon the tree.

Pruning is the operation of taking off undesirable parts. Training is directing the growth of succeeding branches. Therefore, correct ideas concerning training should come before successful pruning. Each tree and vine presents a separate and distinct problem to solve before the knife should be used. Too many people begin at the trunk and prune upwards, whereas they should begin at the top and prune downwards. The greatest mistakes are made, however, in pruning the young tree before it begins its first year's growth. The form of top desired for each fruit and locality should be decided upon before the orchard is set. For the untrained man, this is not an easy matter to decide. The crown or top should be started at the point best suited to the tree. If the location is rather high and dry the crown should be started much lower down than with trees growing in lower, richer and more moist soils. The tops of forest trees in near by forests will give some idea. The peach tree will require a different method of pruning from that of the apple, since the fruit is borne on one year old wood, and consequently, will be further away from the trunk of the tree each year, unless held back by careful pruning, and finally, will all be produced on the ends of long limbs. These split and break off. I like the method of "heading back," especially for the peach. The tree is better enabled to make new bearing wood for next year, the fruit is thinned, the liability of splitting and breaking is much lessened,

the fruit is borne nearer the ground where it is easier to gather, and the branches are made to grow more stocky.



Young tree as it came from the nursery.

The young tree as it comes from the nursery is tall and slender, frequently it has no side branches. Many growers think the tallest tree is best, which is often a serious mistake. Such trees grew in a crowded condition and were forced to grow in a switch-like form. When set out in an orchard their surroundings are entirely different, consequently they are apt to reform their present top by throwing out branches lower down. If left alone, the top is apt to be very ugly. The wind is apt to blow the young switch-like tree about and do it great injury.

I have always found it best to cut the young top back very much when setting. If an apple, I would cut the top back within about two feet of the ground for Virginia; if a peach, I usually cut it back within a foot and a half of the ground—frequently leaving a single straight stub. The roots should also be cut within about six inches of the trunk—if a peach I would cut closer. If very young trees are used, the side buds will usually come out and start a good top. Older trees frequently do not do so well and the grower may have to leave the top where the nurseryman left it. Very little pruning will be required at the end of the first year, but it is quite important to go over the orchard and shape up the tops to conform to the ideal adopted.



Tree pruned and ready for the orchard.

At the end of the second year, visible results of the pruning and training will be plainly evident. An open spreading top to carry a heavy load of fruit should now be constantly worked for. Sun light and air are extremely important for highly colored fruit and for excellence of flavor.

In many orchards of the State were found last fall a large per cent of fruit that was off in color, size and flavor. This was due to the trees being overloaded and much of the fruit not having enough sun light. On more open and branching tops, the crop was much finer. I never saw so many instances where the ill effects of bad pruning were so plainly marked

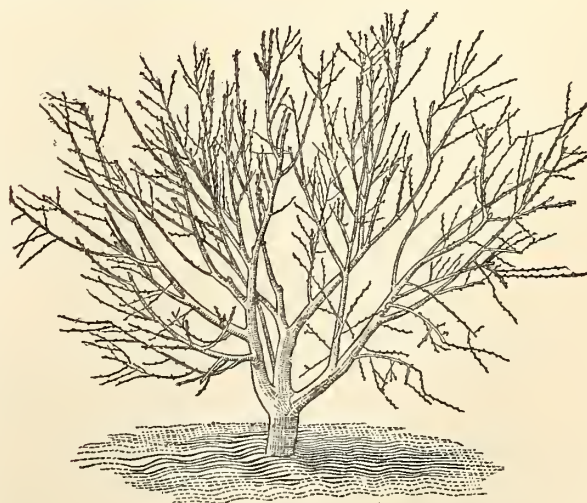
as were seen last season. Begin to shape up the tops now while the lesson is still fresh in the mind. It is



Effects of fruit at ends of long limbs.

often claimed that we should not prune in the winter. Very little damage is apt to occur where small limbs are cut off. Serious damage is apt to follow pruning if done when the sap is active. A coating of white lead paint over the wounds is excellent.

After trees become several years old, severe pruning should not be given the trees during any one single season. I have seen some good orchards ruined by a severe pruning. The tops should be opened up and cut back gradually.



Three-year-old tree after pruning.

In cutting off limbs, the surface of the cut should be made parallel with the body of the tree, and scarco-

ly ever inside of what is known as the "collar." This will enable the cut to "heal over" better.

Some drawings I have had made from trees grown in my experimental peach orchard may bring out the points more plainly.

R. H. PRICE.

Montgomery County.

TRUCKING.

This term is generally applied to growing any and almost all kinds of vegetables for table use. The truck farm is supposed to be a small farm rather than a large one. It is expected to yield very large crops, and is generally looked for near a large city or along the sea coast. Of course such a farm is expected to be richer than ordinary farms for growing the cereals, cotton, hay and rice.

But in the rapid development of this country, which has built up cities and factories almost like magic, the unexampled growth of the commercial industries has brought about changes in the trucking business. Thousands are now engaged in this kind of farming without the advantage of special location, or special markets, or special training.

The high prices of the various vegetable crops have induced them to try to grow them. The high price of land near the cities has compelled them to locate farther off. But the increased facilities of transportation have changed this into almost a help instead of a disadvantage.

It is for these thousands of beginners that we write. We do not expect to enlighten the old hands who have been taught this kind of farming.

As we have said, the truck farm is expected to be rich. Near the cities immense quantities of manure can be obtained for this purpose, but those who live farther off cannot get it this way. They cannot make the land rich, hence they must do the next best thing. They can and must feed the crops with highly concentrated and readily available plant food. They need ammonia, phosphoric acid and potash. They need the ammonia to make the plants grow, the phosphoric acid to increase the fruit, and the potash to form starch and sugar in plants, and as size and fruit are both dependent upon starch and sugar, we see that potash has an important function to perform.

Proper feeding makes the crops strong so as to resist diseases of all kinds. As a feeble person is liable to contract all contagious diseases, so is a feeble plant. We see this proven very often—one man's wheat or oats resist rust and make a good crop. Another man's, on an adjoining farm, take rust and are ruined. The vigorous healthy plant is more or less immune or resistant. Again, the price of trucking crops is always good in the early season and lower later on. The healthy plants can be expected to come in early and thus give the trucker a higher market.

Good preparation, plenty of fertilizers, good seed, and rapid culture will bring success.

Study what your market needs and then what you know how to grow to the best advantage and you will find truck farming an enjoyable life. One great advantage of this kind of farming is that it brings in money all the time. The trucker does not need to run long accounts, and pile up debts, and give mortgages.

JAMES B. HUNNICUTT.

THE LIME SULPHUR WASH FOR SAN JOSE SCALE

Editor Southern Planter:

By some means or other, the amount of sulphur given in the formula for lime-sulphur wash printed in THE PLANTER last issue, was not exactly correct, as used by the Virginia Experiment Station. The exact formula taken from bulletin No. 141 on the "Lime-Sulphur Wash" is as follows:

Lime (unslaked)	30 pounds.
Sulphur (flowers)	30 pounds.
Salt	10 pounds.
Water	100 gallons.

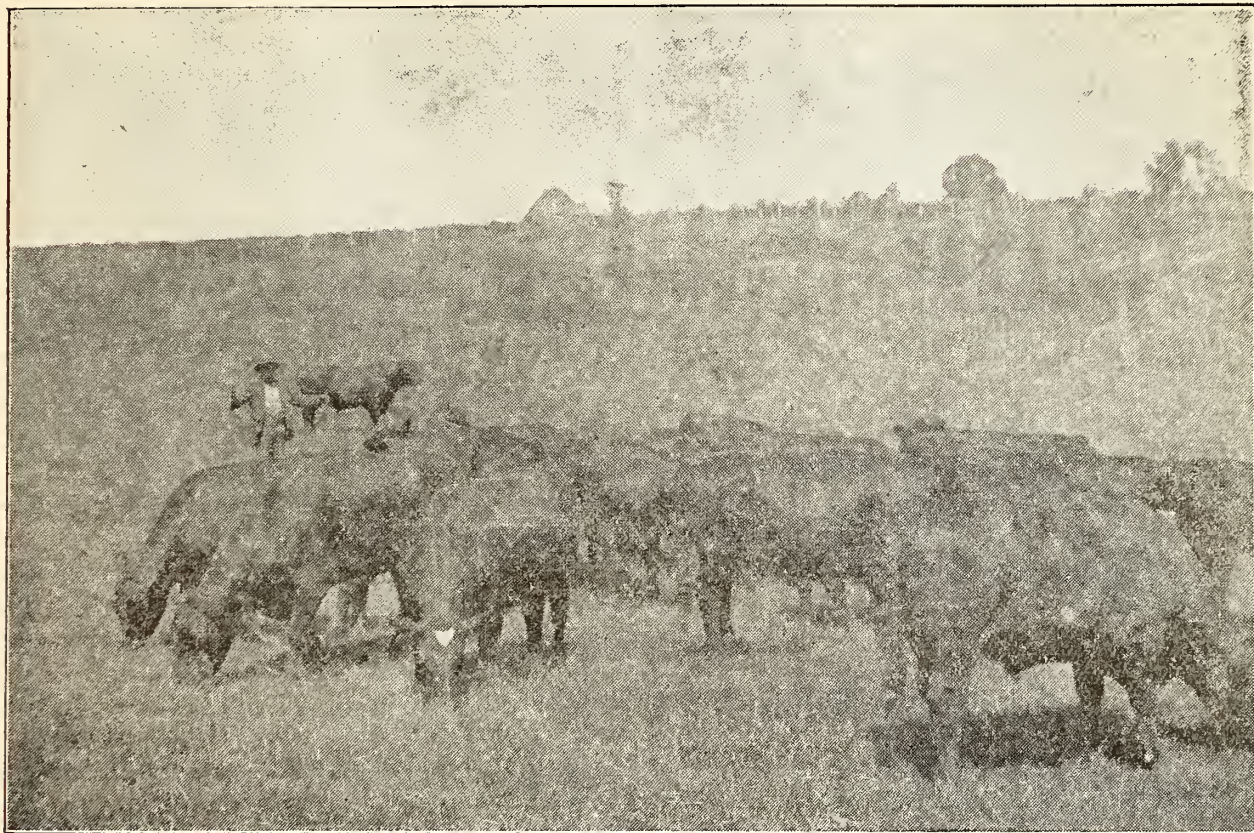
Some extracts are made here from the above mentioned bulletin in regard to making the wash. "Put 4 to 5 gallons of hot water in an iron kettle (20 gallons capacity), add 15 pounds lime, stir with wooden paddle so as to spread it about; then as soon as in full ebullition from slaking add 15 pounds sulphur and mix briskly with lime, adding boiling water as needed to bring entire mass into a thick paste. Work the mass into a perfectly homogeneous paste, then add water enough to make 10 or 12 gallons, and boil for 30 to 40 minutes. It is better to add hot water, as the cooking will thus proceed more rapidly, but if cold water is used the resultant wash will be the same. Add the salt, 5 pounds, when the paste is diluted. When the wash is cooked, strain and dilute to 50 gallons. This will be best accomplished by pouring it into the barrel already partly filled with water. Hot or cold water may be used at convenience of the operator, as there will be no marked difference in the result.

The quantity sufficient for 100 gallons of wash may be cooked in a 25-gallon kettle but this is rather concentrated and needs attention. In whatever manner the wash is cooked, it should be stirred occasionally. Small quantities for use on a few trees can be made in small iron kettles. * * * The cost of the ingredients to make the lime-sulphur wash by the above formula is about 1 cent per gallon, which renders its abundant use on trees very cheap in comparison with soap or the kerosene washes. It is very important to strain the wash as it is run into the tank or barrel."

Montgomery county.

R. H. PRICE.

Live Stock and Dairy.



AN EXPERIMENT WITH ABERDEEN ANGUS STEERS.

Editor Southern Planter:

The steers shown in illustration were procured as calves in Illinois and immunized by inoculation, to Texas fever. Over forty head were thus successfully immunized. Of these, 15 were steers and have been since fed preparatory to marketing them in Chicago. They are now a little over two years old. The feeds used were the by-products of our three great staples—cotton seed meal, rice bran and molasses. In addition they have had the run of the pastures in summer and home raised hay in winter. Except when heavily infected with ticks in September, they have made satisfactory gains and they average nearly 1,500 pounds a piece. Cotton seed meal has cost \$20 to \$24 per ton. Rice bran \$8 to \$13 per ton and molasses 3 to 5 cents per gallon of 12 pounds.

The experiment has demonstrated the ability of these home products, to make as fine beef as can be made upon the best blue grass and corn fields of the Middle West. A bulletin with full description of

the animals, feeds and gains will be given later. These animals were sent to the International Stock Show at Chicago.

W. C. STUBBS.

Experiment Station, Baton Rouge, La.

Since the foregoing was in type we have a letter from Dr. Stubbs informing us that the steers were sold on the market at Chicago and brought \$5.65 per 100, *the top of the market*. This demonstrates conclusively that the South with its *refuse* feeds can make as good beef as the West with its best feed. Why not do so and make this refuse into dollars?—ED.

HOG RAISING IN THE SOUTH.

Editor Southern Planter:

Friend Mercier handed me a communication from you in regard to "those cheap hogs" of his neighbors, whose methods he used to illustrate his article on "Farming as a Business," (published in the November issue of THE PLANTER).

I rather think he would have been more careful

about jumping into the frying-pan had he known that he would be called upon for the facts, but as I think a great deal of neighbor Mercier, I will try to help him out of the difficulty.

I am a Northern man who came South for health and a milder climate, and am engaged in building up one of those old, run-down plantations which originally was good soil but which has been skinned and re-skinned by the raising of cotton exclusively, until that which was in cultivation "would not sprout peas," as they say, and I am also trying to demonstrate to the Southern farmer that he can make a living without depending entirely upon cotton.

The crops I grow are chiefly oats, peas, soy beans, peanuts, sweet potatoes, corn, vetch, rape and rice by irrigation, and I feed these crops on the place to cattle, hogs and Angora goats.

I mention these crops as they play a very important part in the raising of cheap hogs.

I am doing but a small business in the raising of hogs, but generally have about one hundred head most of the time.

As to the methods you asked for, I will try to give them as clearly as possible.

My stock is a cross, produced by crossing thoroughbred Poland China sows with a thoroughbred Chester White male. My reasons for crossing these two breeds are that the crossbred hogs have the easy fattening qualities of the Poland China, and the ability to rustle and graze of the Chesters, and the cross also produces an animal with a very deep side and a heavy ham. The crossbred hogs are all white, and a white hog dresses much nicer than a black one.

I breed the sows to farrow in October and November, and feed them on rice polish and wheat bran mixed with water, and give them the run of the pea and sweet potato fields.

As soon as the pigs are old enough to eat I take the grain from the sows and give to the pigs at the rate of half a pound per head each day until they are six months old, and let them run on the fall sown oats until March; then they are taken off and allowed to run on oats, rape, and other crops sown expressly for them. I then put them on crops of speckled peas and sorghum, then cowpeas, peanuts, sweet potatoes, rape, etc.

When the pigs are six months old I feed them grain at the rate of one pound per head per day until they are put up for finishing, when I feed four or five pounds of rice polish or corn per day for four to six weeks, when they are ready to kill and fat enough for any one, and weigh from 250 to 300 pounds gross.

I do not claim that larger hogs cannot be grown in the same length of time, but I do claim that hogs of the same weight cannot be raised at much less cost. The cost of raising varies from two to three cents per pound gross according to the seasons for growing crops and the amount of grain used in finishing. This year the fall crops were short on account of extremely dry weather, very little rain falling after July.

As soon as the pigs are weaned the sows are turned into the fields and pastures and receive no more grain until the next litter comes. Some may ask why I do not raise two litters a year. My reasons are that the cost of keeping the sows in good condition to raise two litters would be much greater, and it would take much more grain to make the spring pigs large enough by fall to make into bacon and ham than is required for the fall pigs, which have grown slower and cost less. I buy most of the grain I feed, and find that rice polish is the best and most economical I can buy.

Three great requisites in raising cheap hogs are, plenty of range, shade and water. It also needs planning of crops so as to keep a constant supply of green food. One needs, too, a half mile of panels or hurdles for movable fences, so as to feed the crops successfully without waste. It is useless to think of raising hogs for cheap meat without these necessities.

The writer has grown hogs in Iowa for years and can truthfully say that hogs may be grown in the South by these methods at less cost than in the North.

Then why not, brother farmers, raise at least the meat needed on your own place, and stop this wasteful dependence on the North for your pork, when you can raise a better article than you can buy, and at much less cost.

Another important item is the restoration of the soil by raising these crops and feeding them on the land, and then returning to the soil 56 per cent. of the grain fed. This will soon bring up your depleted soil to such a condition of fertility that it will produce a paying crop of cotton again and I know of no method of farming that enables a man to come so near "eating his cake and keeping it" as this.

The wanton depleting of the soil by washing and the utter disregard by most farmers of the destruction of the lands by the present methods of farming, are among the gravest questions that confront the Southern farmer to-day, and until we give up the present one crop system of farming and produce more of what we consume and purchase less, we need not expect permanent prosperity.

Wilkinson Co., Miss.

CHAS. L. DEWEY.

HEREFORDS AT THE INTERNATIONAL STOCK CHOW.

Editor Southern Planter:

Hereford cattle scored a complete triumph at the International Stock Show, Chicago, held recently and it goes to show the prepotency of Hereford blood, when Col. Ferguson, of Perth, Scotland, the judge of the fat cattle, himself a breeder of Angus cattle, awarded the grand championship of the show to the grade Hereford steer, "Challenger," over an Angus bullock.

"Challenger" was sired by a registered Hereford bull, "McGinty," and his dam was a cross bred Holstein-Shorthorn cow. He had the form of a Hereford, white head and white on back, his body being a blue gray, and weighed 1,750 pounds.

The grand championship for car loads of fat steers was won by the Herefords, they being sired by registered Hereford bulls and were yearlings, weighing over 1,100 pounds. They were bred, fed and exhibited by the same man.

The Herefords won in almost every class where they competed, and beside winning with the champion steer, also won the grade bred class.

It was generally acknowledged that in the exhibition of breeding cattle, the Herefords were much more uniform in condition and quality and the development of the young stock was the admiration of all.

The fact that the grand champion steer "Challenger" was selected, fed and exhibited by the Nebraska Experiment Station and that the reserve steer, "Clear Lake Jute 2nd," was fed and exhibited by the Minnesota Experiment Station, is worthy of note, as the grand championship was won in 1902 by the Iowa Experiment Station, and it illustrates the fact that successful feeding by individuals must be done with some regard to scientific principles and not at random, and also illustrates the wonderful work that is being carried on by the Experiment Stations, and that they combine practical results with scientific teaching.

The great number of thoroughbred sires that have been brought into Virginia in 1903 is the best indication of advancement in agricultural methods. It is to be hoped that the value of these thoroughbred sires will be so generally appreciated that their importation will be greatly increased during the forthcoming year.

E. G. B.

Clarke Co., Va.

Challenger, the champion steer mentioned above, was bought out of a lot of cattle in a feeding yard in

April, 1903. He was at that time very wild and cost \$5 per hundred or just about \$65. Professor Smith, of the Nebraska Experiment Station, says of his feeding:

"On the 15th of April we began feeding this steer and fed him for about six and one-half months, during which time we made a total gain of 550 pounds. During the last two months he has increased just 280 pounds, until this week we showed him here in the pink of condition.

"For the first two months we fed a ration made up as follows:

	Per cent.
Corn	60
Oats	15
Bran	10
Oil meal	15

"After the first two months, during which time he was gradually worked up till he was in feeding condition, the amount of this ration was varied and increased according to his capacity, as well as that of the other two steers that were fed with him. At the beginning of the third month we fed a ration made up as follows:

	Per cent.
Corn	60
Oats	20
Bran	15
Oil meal	15

"As the feeding progressed we gradually cut down the feed of bran and increased the oilmeal feeding. However, this change was made very gradually, as you may understand. After September 1 we had increased the oilmeal in the ration until his feed was made up of 20 per cent. of the oilmeal.

"On October 1 we began the feeding of sugar beets. At first we fed two pounds per day, but gradually increased until we were feeding the steer ten pounds per day of sugar beets.

"As a roughage we fed alfalfa and prairie hay. The former, however, was fine, being practically the leaves of the alfalfa. Both with grain and the roughage the limit of feeding was the steer's capacity.

"The feeding of Challenger and his two mates was done by Charles Shumat, who came to us three years ago with no experience as a feeder, having previously been a brakeman. We have carefully calculated the amounts of the rations and have left the execution in a large measure to Herdsman Shumat, to whom we owe a great deal for this steer's success. I watched the steer very closely, and particularly during the last part of the feeding, and paid particular attention to the dung to note any unfavorable changes, but there were none, and the feeding progressed with entire satisfaction to Professor Burnett and myself, and the favorable development of the steer. During the later

stages of feeding this steer readily consumed twenty-five pounds of grain per day with comparatively little effort. I lay the success of this steer's feeding capabilities to his excellent form, coming from good breeding and a strong, active digestion."

POLLED ANGUS CATTLE—TEXAS FEVER TICKS.

Editor Southern Planter:

I notice in the comparative table given in a late issue of *The Breeders' Gazette*, showing the number, etc., of thoroughbred beef cattle sold last year at public sales, a report very favorable to the Aberdeen Angus cattle.

This table gives the average price realised for all the beef breeds and is as follows:

Shorthorns	\$174
Herefords	\$172
Aberdeen Angus	\$220
Galloways	\$116
Polled Durhams	\$155
Red Polls	\$145

From this it appears that the Angus did better than the best of the other beef breeds, by more than 25 per cent.

The extent to which the Angus are gaining in favor with the breeders of thoroughbred cattle, with the range people, with the feeders and last, but most important the butcher, should give encouragement to those who have been predicting this outcome for several years.

I wrote you last year about the probable efficacy of salt and sulphur as a preventive of Texas fever, which you very kindly published with the foot note that you did not have much faith in it. I am still as firm as ever in that belief, if the mixture is kept constantly before the cattle in covered troughs for shelters, from May 1st to October 1st for this latitude, and access given to no other salt during that time:—Though my cattle run in old fields they have ticks of no sort on them.

I beg to call your attention to the fact that the U. S. Bureau of Animal Industry now recommends the use of this mixture as a precautionary step against the Texas fever.

Now if such a simple thing is efficacious, what is to prevent the complete extermination of the fever tick from the South, if the agricultural and secular press will take it up and publish it every year. Its efficacy I suppose should be proven first by government or State experiment, which would be an easy matter and could be done in more than one way.

In sections of this State and I suppose everywhere in the South there are certain fields in which the Texas fever prevails whenever susceptible cattle are pastured on them.

I would suggest that a lot of such cattle be put on

sulphur the first of April, and be put in one of those pastures the first of May, giving the sulphur time to saturate the system before the cattle are exposed; that another lot of cattle which are susceptible be placed in the same field and that this lot be given salt without sulphur; that each lot of cattle be penned to itself at night and each receiving in the pen the sulphur or the salt without sulphur, of course neither salt nor sulphur to be given in the field.

Another way to test the matter would be to give the salt and sulphur mixture for one month and then place on the cattle thus treated a sufficient number of the fever ticks to give the disease, and continuing the sulphur as long as the animal carries the ticks.

I would also suggest that when the spring opens you suggest this preventive and request that all who use it or have used it in the past will give the results in detail in the late fall.

The success of its use depends on keeping the mixture constantly before the cattle during the spring, summer and early fall months, so that the system will be saturated with it all the time. Even if a cattle owner has only the common tick he should use this preventive of ticks getting on cattle, as they sap the blood of the animal, and the sulphur is a harmless substance.

I would not take so much of your time with this, but I realize the importance of stamping out the tick fever if it can be done, for the land and cattle owner of the South.

A STOCKMAN.

Fluvanna Co., Va.

We are strongly in favor of the use of sulphur along with the salt for all cattle as it undoubtedly will largely tend to keep them free from ticks of all kinds, and whilst all ticks are not dangerous like the Texas fever tick, yet they all tend to make cattle less thrifty and are a heavy drain upon the system. Sulphur is no doubt objectionable to the Texas fever tick and cattle whose systems are thoroughly saturated with it will no doubt be less infested with the ticks and therefore less liable to suffer from Texas fever, but we have seen no such results reported as would lead us to advise any stock owner to rely upon its use as a specific for the fever. The only way to get rid of Texas fever is to get rid of the ticks altogether by keeping cattle off the pastures for at least six months and thus starve the ticks to death. This can be done by cleaning one pasture each year until all are cleared and then keeping them clean by seeing that no cattle infested with ticks are turned on them in future. Allow no tick infested cattle to come on the farm and urge the adoption of a "no fence" law in every county thus getting rid of wandering cattle. These straying cattle cost the farmers of the South hundreds of thousands of dollars every year.—E.D.

THE LARGE VERSUS THE SMALL DAIRY COW.

Editor Southern Planter:

No act of Congress has been of greater advantage to the farmer than the act establishing and aiding the State Experiment Stations; and no special work done by these stations has been of greater importance than that done in the interest of the dairy farmer. It is less costly to learn at another's expense than at one's own; and by giving heed to the disinterested, non-partisan work done by the stations, the dairy farmer may save himself much bitter disappointment, and not be misled by following the false teachings of certain dairy writers and breed partizans. As its most valuable work in this line, the Wisconsin Experiment Station has recently issued bulletin No. 102, entitled "Studies in Milk Production." The present Wisconsin Experiment Station herd was established in 1898, and the bulletin covers the work of this herd for a period of four and one-half years.

In order to make comparison of results on a basis of type, the herd was divided into three classes—the small dairy, the large dairy, and the dual-purpose type. The men making this division were Messrs. F. H. Scribner, breeder of Jerseys; Charles L. Hill, breeder of Guernseys; Geo. McKerrow, breeder of Short-horns; and W. B. Richards, Assistant in Dairy Husbandry at the Station.

Pasture was figured at \$1.50 per month, and other feeds at average Wisconsin market prices; while the butter was figured at 20c. per pound, and the skim milk at 15c. per 100 pounds. The butter was computed on the basis of 85.7 per cent. of one pound of butter-fat in the milk equivalent to one pound of finished butter; usually known as adding one-sixth to the butter-fat, the standard now used by the Holstein-Friesian and Guernsey Associations in their official records made under the supervision of the Experiment Stations.

The conclusions reached, as a result of the most painstaking work through a period of almost five years, in which all the food given each animal was weighed, and each treated as though she alone were on test, confirm my teachings of 20 years past that the larger type of dairy cow is the more profitable for the dairy farmer. Space will not permit me to give as much as I would like; but, as conclusively in favor of the large dairy type, of which the Holstein-Friesian is the best exponent, I quote the following:

"Cows of the large dairy type preferable.—From the data presented it will be seen that, everything considered, cows in group B, representing the large dairy type, are clearly in the lead for economic production of milk and butter-fat. The results of over four years' work with cows of the extreme dairy type, represented in group A, not only failed to establish the claims for the superiority of cows of this type

over a much larger and apparently stronger dairy type, but clearly showed that they are not as large producers, nor as profitable dairy animals, as the latter.

That the extreme dairy type has been popular, at least in this state is evidenced among other reasons, by the fact that three of the cows selected for the University herd at our solicitation by prominent dairymen in our State were fair representatives of this type of cows, and are included in group A. Our investigations have been conducted under the most favorable conditions possible for this type of cows; the stable in which they have been kept is considered a model one, as regards cleanliness, light, ventilation and general comfort of the animals, and water is provided for them in the stalls so that they are not exposed to inclement weather at any time. They are given the best of care and attention at all times; being fed liberally; kept during the hot summer months in the cool, darkened barn, protected from sun and flies; and are fed various green feeds and grain in summer, as well as protected from cold in winter.

In view of the ever-increasing demands on the part of dairymen for cows that will have endurance and ability to withstand diseases, as well as great productive capacities, we do not hesitate to state that in our opinion it is not the part of wisdom for our dairymen to select the small refined cows with a spare habit of body in an extreme degree as the most desirable type of dairy cows.

The Farmers' or Dual-Purpose Type.—Neither is it the part of wisdom for the dairyman, as such, to select cows of a type similar to those in group C, representing the dual-purpose type, and to expect the greatest profit from them in the production of milk and butter-fat. For the dairy farmer, the large type of dairy cow will, we believe, everything considered, be found the most profitable. In view of the results obtained with the different groups, it is apparent that cows with the greatest capacity for consuming rough feed are generally the most economical producers. This may be accepted as a fundamental characteristic of all cows capable of large and economical production in the dairy.

The station's comparisons by breed are very striking, and, as usual, the Holstein-Friesian breed is found to excel. Indeed, it seems that with fair representatives this great breed will always win in any net profit comparison, where both the butter-fat and skim milk have values assigned. The average results of the breed comparison are as follows:

	Holstein. Lbs.	Guernsey. Lbs.	Jersey. Lbs.	Shorthorn Lbs.
Annual yield of milk.....	9,987.3	6, 30.7	5,700.2	7,121.4
Annual yield of fat.....	351.6	319.4	301.1	281.7
Annual value products.....	\$94.03	\$82.31	\$77.10	\$74.26
Annual cost of food.....	46.46	37.37	33.22	38.17
Annual net profit.....	48.47	44.94	41.88	36.09

A careful study of this table will show the dairy farmer that it is not the cow that gives the richest milk, but the cow which produces the largest amount of butter-fat that wins out. During all those years, and for all their milk taken in bulk, the average for the Holstein-Friesian milk was 3.52 per cent. fat, while the Jersey average was much higher; yet we see that the Holstein-Friesians averaged annually over 50 pounds more of butter-fat for each cow than did the Jerseys.

But this table does not tell the whole story; the Wisconsin Station had even better grounds for deciding in favor of the larger, hardier, more vigorous cows. If a farmer went into the dairy business for five years he would take account of stock at the beginning and at the end of the specified time; and if he found that the herd had increased or decreased in value, he would take such increase or decrease into consideration. The Wisconsin Station did not do this because it was making a study of milk production only; but it gives a resume of each cow, and we can follow it out for ourselves. The Jersey list reads like a column of obituary notices: Out of 12 cows, one died of congestion of the lungs, one of bronchitis, two were got rid of because of loss of part of the udder from garget, two because found tuberculous, two because such delicate feeders as to be unprofitable, and one because of lack of constitutional vigor and dainty appetite; only three left out of twelve, and they not the best.

The hardy, vigorous Holstein-Friesian cows furnish a surprising contrast to this list: One did so well that a California breeder purchased her last summer at a long price, and took her to California. The rest are there and still doing business at the old stand, though there is one that H.-F. breeders would no doubt, be glad to get if they could. This is Alma Marie Josephine, who at three years old made a record of 18 pounds, 5.8 ounces butter from 400.3 pounds milk, showing an average for the seven days of 3.77 per cent. fat in the milk. The net profit for the one week was estimated to be \$2.72.

The main deduction which the thinking dairy farmer must draw from the exhaustive work shown in this bulletin is that for the greatest net profit he needs cows of the large dairy type, such as the Holstein-Friesians; for, not only do they give a larger net profit, but by reason of their hardiness and great vitality, the large, vigorous Holstein-Friesians thrive on work which will break down and destroy the weakly constitutions of the small, delicately formed Jerseys.

MALCOLM H. GARDNER.

Darien, Wis., Dec. 21, 1903.

In justice to the dual-purpose cow it should be stated that the value of the calves produced by them is much higher than those of the pure dairy types, as they make the best of beef steers and thus add largely

to the income from the herd over a period of years. --ED.

MOLASSES FOR HOGS.

Editor Southern Planter:

I had a barrel of all sorts of molasses the drainage from measuring cans that I directed my clerks to turn upside down, after filling an order, into a big funnel that was placed into the bughole of this particular barrel. When I quit merchandising I brought this barrel of molasses to the farm. I found that my pigs were not relishing their bran mashes and it occurred to me to put one and a half gallons of this molasses to each 50 gallons of bran mash. In 35 years of pig raising experience I never saw such a sudden and rapid improvement in pigs as resulted from feeding the mixture. I fill a 50 gallon barrel one-fourth full of bran and shorts. I then put in 1½ gallons of this molasses and fill the barrel from my heating apparatus with milk-warm water and feed at once, keeping the mixture thoroughly stirred while feeding. I add all the greasy slops and milk I can get to the mixture, and when this is very scarce I cook for each barrel of mixture a half bushel of unmarketable potatoes, the marbles as they are sometimes called.

THOS. S. WHITE.

Rockbridge Co., Va.

VIRGINIA VETERINARY MEDICAL ASSOCIATION.

The Virginia Veterinary Medical Association met in Richmond on the 14th of January. This was undoubtedly the most successful meeting in the history of the association. Much important business was transacted, officers elected, some very interesting cases reported, operations performed, and a paper read by Dr. J. G. Ferneyhough, State Veterinarian, and Assistant Professor of Veterinary Science, in the Veterinary Department of the Virginia Polytechnic Institute at Blacksburg, Va.

MILK RECORDS FOR 1903

At the Melrose Castle Farm, Casanova, Va.

Editor Southern Planter:

The milk produced by the full blood Ayrshire herd at the above farm, advertised in another column of this journal, is weighed at each milking.

The records show an average production of 5,329 pounds of milk from 35 cows. Throwing out three heifers for first period of lactation, the average for 32 is 5,545 pounds. Twelve of the 35 produced over 6,000 pounds and the best cow produced 7,079 pounds.

EXOS. H. HESS,

Manager.

The Poultry Yard.

RAISING CHICKENS BY NATURAL MEANS.

Editor Southern Planter:

Arrange to have a number of hens hatch at the same time so that more chickens can be given to each hen and they are less trouble to care for proportionately. Since the hens are the best brooders, where an incubator is employed to hatch the chicks, they may be raised by hens. To do this set one hen at the same time the eggs are put into the machine and divide her eggs amongst a few other broody hens when the eggs are nearly ready to hatch. After a hen has been on the nest with one or two chicks under her she will undertake the task of raising a large family without any trouble, and the chicks from the incubator hatched eggs may be given these hens, say at the rate of 20 to 25 to each hen.

The time of hatching controls to a considerable extent the size of the fowl. Early hatching tends to produce larger fowls. It takes an average of three eggs to produce one live healthy chick. This is the conclusion which has been reached at some of the experiment stations. Of course this takes into account all losses and yet many people continue to be sorely disappointed if they buy a setting of eggs and one-third of them fails to hatch.

The last thing that the chick does before leaving the shell is to draw into its body the yolk of the egg from the white of which the body of the chick has been developed. Full and plump as it is when it comes from the shell, it does not require any food for the first twelve to thirty-six hours. In that time it has learnt to use its legs and is much more active than at first and will readily pick up food supplied to it. During the first two or three days the chicks require warmth more than food, and the hen should be disturbed as little as possible. The best food for the first few days is stale bread soaked in milk and squeezed nearly dry. This should be crumbled fine and placed where the chicks have free access to it, and where they cannot step on it. The first meal, recommended by Prof. Chas. E. Thorne, director of the Ohio Agricultural Experiment Station, is beaten egg with two tablespoonfuls of milk. After beating the mixture is set in a warm place until it coagulates or "sets" into a custard, and should be fed in this condition. Rolled oats (oat meal grits) make an excellent food for chicks. There is, perhaps, no better grain food for young chickens than oats prepared in this manner. This may be fed after the third day in

connection with the bread sopped in milk. The chicks should be fed regularly five times a day for the first month and no food allowed to sour. After the first ten days more uncooked food may be fed. A mixture of wheat bran, corn meal, and a little linseed meal mixed makes a valuable food. This should be scalded but not made soppy; boiling water makes it stick together better and partially cooks it. In this condition it is more easy to digest. The addition of a little bone meal supplies an abundance of bone making material and counteracts any tendency to diarrhoea. Dry grains, such as cracked wheat, cracked oats, millet seed and screenings from the various grains scattered through litter induce exercise and give a variety. These should be given three times a day and soft food should constitute the other two meals. Hard-boiled eggs may be fed from the beginning, but like milk, require more skill than the feeding of bread soaked in milk. The eggs should be mixed with bread crumbs, one-half of each and fed once a day, say every other day for the first week. Too much boiled egg is not good for the chicks.

One of the great difficulties in raising fowls is to carry young chickens through the first two weeks without bowel disorders. Improper food, injudicious feeding and cold each play an important part in producing these disorders. The best corrective is scalded milk substituted for the drinking water.

If the fowls are confined in coops a very little finely chopped meat should be given once a day,—a piece as large as a walnut will be sufficient for a dozen chicks. Dried blood or meat meal will serve the purpose as well. Coarse sand makes an excellent grit for very young chickens. As they get older some coarser material must be provided.

During the first eight weeks of their life chicks should have plenty of room to run, yet they should not be allowed to tramp around in the wet grass. With runs of medium extent they should receive three meals a day during the second and third months. Mash in the morning and grain in the middle of the day and at night.

When the mother shakes off the chickens they should be protected from the cold. It is a good plan to place the hen and chickens in the house where you wish to keep the chickens after the hen has left them. They will huddle together and so keep warm. Twenty-five is sufficient in each flock so as to prevent over-crowding. Do not furnish roosts for the

young chickens. Crooked breast bones are often caused by roosting too young. During the hot months shade must be provided. Let them out early, they will hunt and enjoy life during the morning hours. At 10 or 11 A. M. you will see them lounge in the shady places. Then a few hours before sunset they will scatter again, until fed the last meal, and then retire happy and contented with life. If one has an orchard it is an ideal place for shade and insects. A five or six foot wire fence should inclose the fowls.

GEO. H. C. WILLIAMS.

District of Columbia.

THE NEW YORK CO-OPERATIVE EGG PRODUCING EXPERIMENTS.

In a comparison of the different breeds of fowls the White Leghorn pullets came out first, second and fifth in the eggs laid per 100 fowls per day, and a flock of mixed fowls, pullets and hens, came out third and fourth. In the food cost of one dozen eggs, the White Leghorn pullets came out first, second and third, and a mixed flock of pullets fourth. Plymouth Rock pullets came out sixth in eggs laid per 100 fowls per day, and twelfth in food cost of one dozen eggs. Black Minorca pullets came out thirteenth in eggs laid per 100 fowls per day, and eighteenth in food cost of one dozen eggs. In the experiment in 1902-1903 a flock of White Leghorns, consisting of 500 pullets and 18 cocks and cockerels, made a profit (excess of value of eggs over cost of food) of \$46.45 per 100 fowls. A mixed flock of Wyandottes, Leghorns and cross breed Wyandottes and Leghorns and Buff Leghorn pullets and hens mixed made a profit (excess of value of eggs over cost of food) of \$41.69 per 100 fowls. Another flock of White Leghorn pullets made a profit of \$40.58 per 100 fowls. In the winter of 1902-1903, while the price of foods remained about the same as in 1901-1902, the price of eggs from about the 1st of February on was remarkably low. This covers the period when the greater number of eggs were laid, consequently the profits are much less in 1902-1903 than in 1901-1902.

DUCKS AND WINTER LAYING.

Ducks, as a rule, do not lay well in winter, if we except the Indian Runner breed, and yet eggs at this time are very much wanted by those who hatch and rear early ducklings for market. The eggs of the Runner can be had without much difficulty, but this breed is of little value for the purpose referred to. A

breed which grows quickly and puts on plenty of flesh of fine quality is what is wanted. Good condition, without being overfat, is what is demanded in the stock birds, and, in addition, they must be provided with comfortable quarters, and supplied with good and stimulating food. Animal food must form a liberal share of their diet. Ducks can stand a lot of this, and during the winter they lay all the better for it. Cooked vegetables, such as cabbage and turnips, are also very necessary, and should always accompany a diet rich in nitrogenous elements. Mere fat-producing food is of little value, though a certain amount is necessary to supply the carbon demanded by the low temperature of winter. In this respect, corn meal is useful, but should be combined with one-third its bulk of bran.

A cross between Pekins and Aylesburys often produces ducks which have a tendency to lay earlier in the winter than the pure bred parents, and it often suits to cross these birds another year with pure Aylesbury drakes. When Indian Runner ducks are crossed with Aylesbury drakes plenty of early eggs are secured, and the young ducklings are fairly satisfactory growers, but if this cross is again mated with an Aylesbury male the results are generally very satisfactory. Eggs can usually be got at the time they are wanted, and the ducklings grow fast, and put on a lot of meat. If the top prices are usually secured by pure bred Aylesburys, the latter cross, at any rate, ranges high up, and, everything considered, is very satisfactory.—Ex.

Potato Fertilizer—Chemical Fertilizers.

Will you let me come out in your February issue the different chemicals to make a good potato fertilizer, and where they can be bought, and proper proportions to mix the same, and how much to the acre. If possible, give names of parties selling chemicals, as we have applied to some companies and they refer us to the agent, and he wants to sell us a manufactured article, which we do not want. Also can you give us the wholesale price list on chemical fertilizers from the parties you recommend?

J. SINCLAIR SELDEN.

If you look at Work for the Month in the Garden Department you will find instructions as to Irish potato fertilizer. You can get chemicals for mixing fertilizers from Mortimer & Co., 13 William street, New York city. They will quote you prices delivered in this or other States. They are a reliable firm, and will sell you the goods as cheap as they can be bought anywhere and of guaranteed analysis. You will find a price list of chemicals in this issue.—Ed.

The Horse.

NOTES.

The Eastern Shore of Virginia breeders, the Floyd Brothers, whose establishment is near Bridgetown, in Northampton county, are branching out and infusing new blood into their trotting stud year after year. Their premier sire is Sidney Prince, 2:21½, son of Sidney, and his stud companions are Red Oliver, by Electrite, from the great brood mare Lady May, and a young horse by Baron Dillon from a producing dam. There is no more popular horse in Virginia than Sidney Prince, and his book for some seasons has filled to overflowing. At the recent Fasig-Tipton sale, New York, the Messrs. Floyd added eleven head of well bred brood mares to their collection, and the addition of these matrons is likely to produce results of a highly satisfactory nature. They are by successful sires and mated with the Floyd stallions should throw race winners. The mares in question are Ilario, bay, foaled 1898, by Allerton, 2:09½, dam Baroness Sprague, by Baron Wilkes, bred to Expedition, 2:15¾; Nonamusa, a brown, foaled 1900, by Allerton, dam Kate E., dam of Birchwood, 2:15, by Mambrino Boy, bred to Expedition; Egeria, a black, foaled 1901, by Wilkes Boy, dam Equiria, by Expedition, bred to Allerton; Red Rock, a bay, foaled 1893, by Egotist, 2:22, dam Dixie Phallas, by Phallas, 2:13¾, bred to Allerton; Baroletta, 2:17½, pacing, a bay, foaled 1896, by Grand Baron, 2:12½, dam Colleta, 2:19½, by Nut-breaker, 2:24½, bred to Grattan Boy, 2:08; Alselma, a bay, foaled 1899, by Altivo, 2:18½, dam Anselma, 2:29½, by Ansel, 2:20, bred to Axworthy, 2:15½; Czarina, a brown, foaled 1900, by Henry Jay, dam Sugar, dam of Peppina, 2:18½, by Lumps, 2:21; Bessie Gillig, foaled 1899, by Gillig, 2:23½, dam Cecil, dam of Ti Point Mary, 2:17½, by Waltham; Miss Thayer, a black, by Simmons, 2:28, dam Esprit, by Cuyler Clara McGregor, a chestnut, foaled 1886, by Robert McGregor, 2:17½, dam Clara Morris, by Mambrino Patchen, bred to Managing Director; and Clemence, a bay, foaled 1899, by Cresceus, 1:59¾, dam Aureola, sister to Delegate, 2:27½, by Dictator.

The brood mares purchased by the Floyd Brothers and placed in their stud should make history for the Eastern Shore of Virginia, as most of them are bred in fashionable lines and carry the blood of the most successful sires of the present day. Nearly all of them trace to George Wilkes, Electioneer and Alexander's Abdallah, a trio holding the first rank among the sons of Hambletonian, 10. Some of these mares are yet young, and will be trained and raced before

being retired permanently to the stud, while others are already staid matrons and were purchased specially for breeding. Those by Allerton, Expedition, Wilkes Boy and Robert McGregor are the get of sires of proven merit, and likely to attract most attention, of course, but I confess more or less partiality for Clemence, the daughter of the stallion king, Cresceus, 1:59¾, not wholly because she is by that mighty warrior, but on account of her carrying the blood of Dictator on the maternal side, through her dam, Aureola, the sister to Delegate. When mated with Sidney Prince, Clemence should throw a race horse, as the prospective foal will carry blood that has produced Lon Dillon, 1:58½, queen of trotters, and Cresceus, 1:59¾, who reigns as king of them.



Kelly, 2:27, full brother to Expressive, 2:12½, is doing finely in the stable of W. J. Carter. Expressive was the greatest trotting race filly as a three year the world has ever seen. She has great size, and was recently sold at auction in New York for \$1,700 when thirteen years old. Kelly is a son of Electioneer, out of far-famed thoroughbred Esther, dam of four trotters. He has sired McChesney, 2:16¾, and other speedy performers. This horse transmits his level head, speed and exquisite finish to his get, too, and breeders can make no mistake in sending their best mares to his court.



Among the trotters that are being wintered at Spring Garden Farm, the country home of Robert Tait, the Norfolk seed merchant, are Burlingame, 2:18½, the brown stallion, by Guy Wilkes, dam the famous brood mare Sable, by The Moor; Lissak, son of Burlingame and Helic, by Norval, and such brood mares as Helice, dam of Clarion, 2:15½; Miss Mack, dam of General Johnson, 2:12½; Sweetstakes, dam of Great Stakes, 2:20, and others of note. Burlingame was a trotter and a great show horse as well, and he is the premier sire at Spring Garden, but Lissak is a young horse, with good looks and speed, and some of the best mares at the farm will be mated with him this season.



Some of the best mares in the State were mated last season with W. H. Nelson's bay stallion, Great Stakes, 2:20, and the son of Billy Thornhill is likely to be well patronized during the coming one. Great Stakes is the sire of the crack roadster, Foxhall, 2:19¾, and other fast ones. Some of the best bred of his get are fast enough to win and will take records when started. One of the most promising of his

daughters of the chestnut mare Princess Kenton, was sold for export to Europe last season. Her record was only 2:32, but she could trot in 2:15.



The meeting of the Virginia State Veterinary Association held in this city a few days since, was harmonious and productive of good results. Officers were elected and matters of importance discussed. Dr. Faville, of Norfolk, was chosen president; Dr. Thomas Fraser, of Richmond, vice-president, and Dr. Gilchrist, of Norfolk, secretary and treasurer. The Board of Censors consists of these officers and Drs. Drake, Bannister and Eppes. Dr. J. G. Fernyhough, who occupies the position of State Veterinarian at the Virginia Polytechnic Institute, Blacksburg, read a most interesting and valuable report of his work, while other papers of interest to the profession were also read and discussed. On adjournment of the Association the State Board of Veterinary Examiners, consisting of Drs. Gilchrist, Drake, Bannister and Willis, met and proceeded with the examination of applicants to practice in the State.



Among the two year olds in the string of J. O. Keane, the Kentucky trainer, who invaded Russia in 1902 and won more races than any one else, is Certiorari, chestnut colt, by Eon dam Cara Belle, by imp. Charaxus, dam Ada Belle, by Eolus. Certiorari was bred in the Ellerslie stud, Charlottesville, Va., where his sire, the son of Eolus and War Song, rules as premier.



One of the highly prized brood mares in the Kingston stud of Baker & Gentry, Lexington, Ky., is the Ellerslie bred mare Charola, a chestnut daughter of imp. Charaxus and Eola, the sister to Eole, by Eolus, dam the famous War Song, by War Dance. The first foal of Charola, a filly, was sold at auction in New York last spring for \$1,800. She has just dropped her second foal, a handsome chestnut colt, by Jack Point.



The stable of trotters owned by L. G. Roper are being wintered at Lonsdale Stock Farm, Roper, N. C., and the horses are all doing nicely. By the record Harry Woodford, 2:17½, the brown gelding, by Clement R., dam Mand, by Harry Clay, is the fastest member of the stable and Mr. Roper considers his able to trot right around 2:10. Among others in this string are Lady Thelma, 2:20½, by Clement R.; Simol Stakes, 2:21½, by Great Stakes; Mabel R.,

by the same sire, and Tar-Heel, by Clement R., all of whom are out of the great brood mare Sue Norfolk. Sue Norfolk, the daughter of Norfolk and Lady Manchester, is in foal to Alto Bell, by Day Bell, son of the ex-stallion King Palo Alto, 2:08½. The nicest colt at Lonsdale is a year-by by Foxhall McGregor, dam Sue Norfolk. In addition to these Sue Norfolk is the dam of Foxhall, 2:19½, Harry Woolford, Lady Thelma and Simol Stakes were raced last season and Mr. Roper may conclude to send them out again during the coming one, along with some younger horses owned at the farm.



H. M. Johnston, Bedford City, Va., has sold to George D. Wingfield, same place, the California bred stallion Albenson, 16249, a bay, by Alberton, 4023, dam Lady Nelson, by John Nelson, 187, second dam Oregon Nell, dam of Maid of Oaks, 2:23, by Missourin Copperbottom. Albenson was foaled 1889 and bred by W. S. Enos, of Independence.



William W. Bennett, whose stud of thoroughbreds is kept on his farm, near Buchanan, Botetourt county, Va., has recently added to his collection the chestnut mare Sea Drift, by Knight of Ellerslie, dam Sea Foam, by Lisbon. The former good race horse and now successful sire of hunter and jumpers, Bohemian, son of Ten Broeck, who heads the Bennett stud, is wintering nicely and promises to be well patronized during the coming season.



A meeting of the Staunton Horse Show Association, of Staunton, Va., was held there recently and plans laid for an exhibition this year. The Association has secured the services of Julian Morris, who successfully managed the Lynchburg Horse Show in 1903. The officers of the Staunton Horse Show Association are: Hon. Edward Echols, president; J. N. McFarland, vice-president; L. G. Straus, treasurer; Hugh C. Braxton, secretary, while the Board of Directors is made up of S. H. Ellerson, W. W. King, L. L. Bowman, Julius Witz, Raleigh Carrier, J. B. Guntner, William A. Grubert and S. C. Neff.

BROAD ROCK.



ERRATA.—In our January issue, in the last paragraph in the Horse Notes, a mistake occurred which we desire to correct. The gentleman referred to as "Mr. Samuel" should have been Mr. Samuel Hairston. He breeds pure bred cattle and hogs and fine horses.—Ed.

Miscellaneous.

AGRICULTURAL TEACHERS AND WRITERS.

DR. W. C. STUBBS.



In the article in our last issue on this subject it was our intention to have included a short sketch of Dr. W. C. Stubbs, but we failed to receive his portrait in time to have a half tone cut made. We have since received same, and have now the pleasure of presenting a life-like likeness of Dr. Stubbs. Dr. Stubbs is one of the men of whom Virginia may be proud, although, unfortunately for Virginia, his life work in the advancement of agriculture has been done in another State. Dr. Stubbs is a native of Gloucester county, Va., where he still owns the old ancestral plantation on which his forbears were born and helped to build up the State. This plantation he not only owns but works, the same being managed by his nephew under direction. He is there setting a fine example of scientific farming and daily increasing the fertility of the place and building up a fine herd of pure bred cattle. Dr. Stubbs, after serving through the war resumed his studies at the University of Virginia and graduated there. In 1869 he accepted a professorship in East Alabama College, and in 1872 was made professor of chemistry in Alabama Agricultural and Mechanical College, and later State Chemist. In 1885 he was called to take charge of the Louisiana Sugar Experiment Station, established by the planters of that State. He was shortly after appointed professor of agriculture in Louisiana State University and Director of the State Experiment Station at Baton Rouge. Later he was made State Chemist of Louisiana, and also Director of the North Louisiana Experiment Station, at Calhoun. He still discharges the duties of these various positions and has done so so efficiently and with such manifest advantage to the agricultural interest of the State that the Legislature has constantly increased

the appropriations made for the different interests under his charge. The work which he has done in connection with the introduction and breeding of richer types of Sugar cane and the growth of these and the introduction and perfection of means for more completely extracting and refining the juice has resulted in the addition of millions of dollars of wealth to Louisiana. In other lines of agricultural advancement he has taken forward ground, and is now doing all he can to increase interest in live stock breeding and feeding, with a view to the utilization of the waste products of the rice, cotton and sugar fields. In this issue will be found a short article dealing with his latest experiment in this line in which he has demonstrated that Louisiana, with her rice bran and molasses and forage crops, can feed beef which will top the Chicago market. Dr. Stubbs has been a prolific writer on the Sugar cane and sugar production, and his works are recognized as authorities on the subject. He has also written largely on other agricultural topics and has frequently favored us with articles of great value to Virginia and other Southern farmers. Although so busy a man he never fails to respond to any request from us for an article likely to be of help and value to his old Virginia friends.

Bermuda Grass.

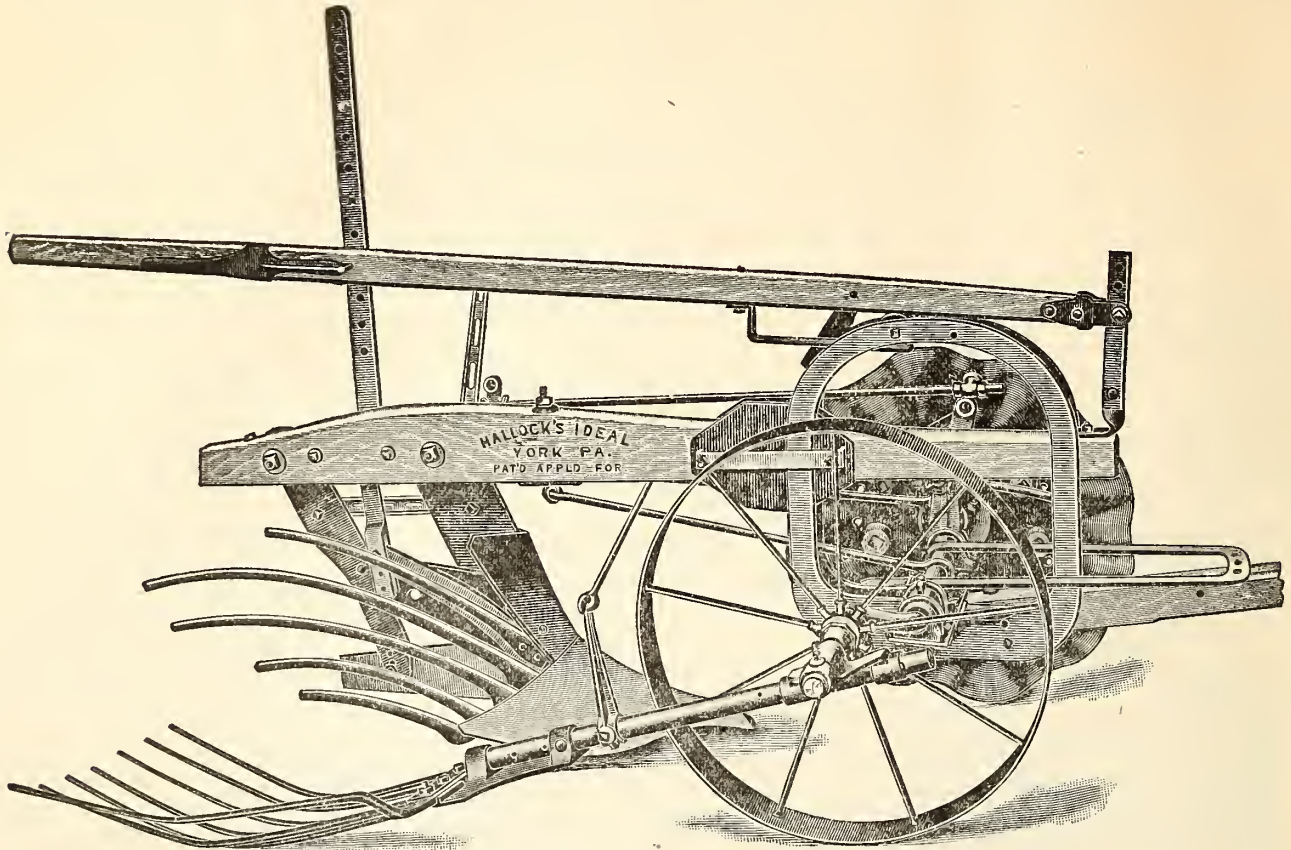
You will please advise me if you think Bermuda Grass would grow in Franklin county, Va. I am anxious to secure a stand of several acres if you think same will grow here. Advise best methods of sowing it. Will order the sod if you think best. Name land best suited for it.

W. M. PARKER.

Henry Co., Va.

Yes, we believe it will succeed. Plant sod and not seed. It does best on good loamy land. Plow and work the land fine, then open shallow furrows about a foot apart drop in at intervals of a foot a few of the roots and cover with the plow and roll. The roots are much more reliable than the seed.—Ed.

If you have some pure bred birds, enter them for competition. The score card of the judge will give you an idea of their value.



AN IRISH POTATO DIGGER.

The scarcity of labor now common throughout the trucking sections of the country and which is being seriously felt in this and adjoining States, has led us to make some enquiry and investigation into the merits of an Irish potato digger which has recently been put on the market by D. Y. Hallock & Sons, of York, Pa., the introducers of that well-known and appreciated implement, the weeder. In the trucking sections of this and adjoining States millions of bushels of early Irish potatoes are grown every year. In the past the digging and gathering of this crop has been done chiefly by negroes, but the demand for labor has taken away to the mines, railroads and factories thousands of these men. Something in the shape of machinery is needed to take their place, and from our investigation into the merits of Messrs. Hallock's digger, we believe they have struck the needed want. Diggers in the past have not given full satisfaction. They either failed to dig cleanly or bruised and buried the potatoes after they were lifted. The devices adopted by Messrs. Hallock in their new machine seem to us likely to meet all these difficulties, and we are assured by those who tested the machine last fall that it did excellent work. We feel that growers may with confidence give this ma-

chine a trial, and we shall be glad to learn that they are doing so. Machinery is bound eventually to supplant human labor in this work, and those who first get the right machine are sure to be rewarded in the quick and economical handling of the crops.

NORTH GARDEN (VA.) FARMERS' CLUB.

Editor Southern Planter:

The North Garden Farmers' Club held its 14th annual meeting at the home of Mr. S. B. Woods, on the 19th of December. The inspection committee, consisting of Messrs. Harry Martin, W. H. Sutherland, G. W. White, reported Mr. Woods' large herd of pure bred Red Polled cattle in fine condition. He has also ten fine pure bred Poland China brood sows and 108 fine Bronze turkeys, for which Mr. Woods expects \$10 each. His large orchards are in good condition. Since the last meeting he has erected a large and handsome barn.

After the inspection the club were invited to a most excellent dinner, among the viands being a splendid wild turkey, roast bear, oysters, etc. After doing ample justice to these good things the Club adjourned to the parlor, where small tables were groaning under the weight of cakes and cream. After partaking

of all these creature comforts the Club was ready for business, and proceeded to the election of officers for the ensuing year. Mr. Harry Martin was elected President; Vice-President, W. H. Sutherland; Secretary, L. B. Johnson; Corresponding Secretary, J. N. Faris.

The drawing of the months in which each member will entertain the Club during the coming year then took place. There being no special subject for discussion, the talk took a wide range, from the Panama Canal to the raising of chickens. The subject for discussion at the next meeting was agreed upon—viz.: What new crops can we undertake to raise with fair prospects of success? S. B. Woods and S. M. Page to open the discussion.

The Club adjourned, to hold its next meeting at the home of Mr. W. L. Carpenter.

J. N. FARIS, *Corresponding Secretary.*

COUNTRY LIFE VS. CITY LIFE.

Editor Southern Planter:

I have been an interested reader of your practical and helpful journal for some five months, and, with your permission, would like to rise and ask a question. I have been a travelling man, am living in a city, and come in contact with all trades and professions of importance. Among every class I find the same feeling of discontent and the idea that the man in the *other* class has the best job, and the easiest living. Almost universally they end their plaint with the statement, "The farmer is the most independent and has the best living of any working man." My query then, is, can a frugal, industrious man, who owns his own home in the city, and is working on a fairly good salary, improve his condition and get ahead faster than could the same man with the same capital invested in a good farm, as well located with reference to markets as the city man is to employment, and allowing average success in each location?

I have a home in mind, which will illustrate the way in which the ordinary city man lives, and how his money goes. He owns a house of eight rooms, with all improvements, on a lot 35x100 feet, on a clean street and good neighborhood, within three minutes' walk of car line, stores, school, churches, etc. His property is worth about \$3,000. He works nine hours a day on a salary of \$50 per month. The family consists of three adults, and there is no work hired in the house, his wife doing the washing and ironing. The expenses of maintaining this home are about as follows:

Taxes per year	\$ 30 00
Food per year	180 00

Fuel per year	35 00
Water rents per year	6 00
Gas, fuel, light per year	25 00
Clothes per year	100 00
Repairs per year	20 00
Car fare per year	40 00
Lunches, 25c. per day	74 00

	\$510 00
Year's salary	\$600 00
Total expenses	510 00

Balance	\$90 00
---------------	---------

These figures, I believe, are as low as a family of three can live in this city respectably. This leaves, as you see, only \$90 for incidentals and for a rainy day. You can imagine how much is saved!

The United States Commissioner of Labor reports that the estimated cost of living for a family in this city is \$450 per year, and the average salary received as \$40 per month, many in debt and getting more involved each year.

Now, Mr. Editor, I can see where a large part of the above \$510 could be cut off in the country, with one's own cow, poultry, fruit and vegetables, so that perhaps one-half could be saved and placed on the credit side of the farm. But how about the crops and the income obtainable from a \$3,000 farm in old Virginia? Suppose we find a farm well located as to markets, of say a 100 acres, with fair buildings, water, etc., such as we see advertised in your State, and plan it to have, say—

25 acres in timber for fuel.
2 acres in yard and buildings.
3 acres in orchard and poultry yards.
10 acres in hog pasture.
20 acres in corn.
5 acres in wheat.
5 acres in oats.
30 acres in pasture, together with timber.

100

Suppose he kept 500 or 1,000 laying hens, hatching by incubator, and turning off as many early broilers as possible. Also 10 or 12 brood sows to run on the pasture, keeping them supplied with green feed by rape and other forage crops following the corn, etc. With a silo and a little surplus capital he might buy a few head of thin cattle, keeping them 60 or 90 days, and so get more manure and market his corn and roughage at home. If such a course was pursued, what could he reasonably expect to realize above his living? I would feel very glad if you should consider this query of enough general interest to devote a little space in the *PLANTER* to a discussion of the subject, and give us your opinion of the "better life" and facts to show what can be done.

*Anything that will help to put intelligently conducted farming on a *business basis* with other professions, and stop the rush of young men to the already overcrowded cities, seems to me to be of prime importance. Authorities tell us that 3 per cent. of the men who start in business make a success. How is it in farming? The latter business surely makes less nervous wrecks, and I believe affords the most satisfaction in life to one adapted to it.

Cleveland, Ohio.

H. C. KING.

The foregoing question is one which has been repeatedly addressed to us, and one which we have on more than one occasion essayed to answer. The great difficulty which always confronts us in dealing with the subject is one of the man and not of the farm. Given the right man, one who knows something of country life and has a genuine love for the country and for working in the land and amongst animals, and there can be no doubt but that such a man can succeed as a farmer either in this State or in any other good farming State, and that he can not only provide better for the daily wants of his family, but can save more money than he can as a clerk or employee in the city on such a salary as the average man can command. And yet with this certain assurance we always hesitate to advise a man to break up a city home and throw up a situation to become a farmer. This hesitancy is occasioned by fear lest the man and the new occupation shall not be found in harmony, especially under what are almost certain to be the rough experiences of the first two or three years, and that he will become discouraged and lose what he has saved and invested in the new place. With \$3,000 to commence the life of a farmer in this State any man at all capable of running a farm and with health, strength and willingness to work and learn, ought to succeed in five years' time in securing a beautiful home and an abundance of everything needed to make life worth living, and after that save money each year. We would say first do not buy too large a place, 100 acres is enough, even less would be better than more. Do not invest in the farm more than half your capital. You will need money to meet running expenses and to provide household needs for at least two years, and probably something in addition to what the farm makes for another year or two beyond that time. In this State for \$1,500 there are hundreds of places for sale of from 75 to 150 acres, with fairly comfortable houses and buildings on them, which, with good, energetic and scientific management, will, in three years, make most desirable and profitable homes. The mistake nearly all make who come here from

the North and West is that they buy too much land. They are surprised at the low price of our lands as compared with the price of land North and West, and overburden themselves at the start, thus locking up their capital when it is essentially necessary that they should have means available to improve lands which, though naturally good, have been wasted by years of unscientific farming. On such a place as we have suggested, located within a reasonable distance of a city or town, a system of diversified farming, making dairying, hog raising and egg and poultry production leading features and raising on the farm all the rough feed needed and as much of the grain food as can be done, success should be assured. We have in mind a gentleman in this State who gave up a situation as a drummer for a commercial house about ten years ago and went on to a farm owned by his wife in Southside Virginia. This farm had been rented for years, and was so badly run that the last tenant refused to live longer on it, even rent free, as he could not scrape a living out of it. Fortunately the gentleman in question had great love for farm life, and had been trained at the Agricultural and Mechanical College of the State, and had, therefore, some knowledge of the work before him. Beyond the farm he had only a few hundred dollars of capital. This he invested in a team and a few cows and hogs, and set about the work of improving 50 acres of his farm. He has worked steadily on the place from that time to this, and now owns one of the prettiest places in the whole section, producing on 100 acres of the improved land some of the heaviest crops ever grown in the State, which are fed to a fine herd of cattle and to hogs and poultry, whose products are shipped to this city and sell at top market prices, producing a fine income and constantly enhancing the value of the farm and stock. What this gentleman has done you can do, if, like him, you are adapted to the life.

Remember, the best-looking birds are not always the best performers, and before completing the bargain learn something of the characteristics of these birds; the number of eggs per year the flock laid (or, better still, the individual records of some of the hens); if they lay through the winter; the kind of house they are in (if heated with stove, or other means, during cold days or nights, don't have them at any price), and other questions that may suggest themselves. Have a clear idea what you want, and if you are asked a price equal to one dollar per pound, "don't pinch down for a chip."

THE Southern Planter

PUBLISHED BY

THE SOUTHERN PLANTER PUBLISHING COMP'Y.

RICHMOND, VA.

ISSUED ON 1ST OF EACH MONTH.

J. F. JACKSON,

Editor and General Manager.

B. MORGAN SHEPHERD,
BUSINESS MANAGER.

TERMS FOR ADVERTISING.

Rate card furnished on application.

TERMS FOR SUBSCRIPTION.

THE SOUTHERN PLANTER is mailed to subscribers in the United States and Canada at 50c. per annum; all foreign countries and the city of Richmond, 75c.

ALWAYS GIVE THE NAME of the Post-Office to which your paper is sent. Your name cannot be found on our books unless this is done.

THE DATE ON YOUR LABEL shows to what time your subscription is paid.

Address THE SOUTHERN PLANTER,
RICHMOND, VA.

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PUBLISHER'S NOTES.

TO ADVERTISERS.

All advertisements and matter pertaining to advertising *must* reach us by the 25th of each month. Please bear this in mind.

Our Holiday Number.

It is with a feeling close to profound gratitude that we acknowledge the numerous letters and expressions of commendation and congratulation we have received on our January issue. From all quarters of the country have come words of praise of our effort. We have been made to feel that we have really done something worth doing. We are sure that we have gathered enough inspiration from these letters to last us through this year, and to urge us to still greater effort in the future. We append a couple of letters, which are fair samples of those received, and as they come from such competent sources, you need not blame us if you find us suffering with an attack of "swelled head" some time when you drop in on us:

Raccoon Ford, Va., Jan. 12, 1904.

I have been reading The Southern Planter for many years, say, from its foundation, in 1840, sixty-four years, and I am sure I have derived much benefit from it, and I hope it will survive and prosper for the benefit of generations to come.

I am now almost eighty-eight years old, and am still giving my active attention to my farm operations. This is a blessing vouchsafed to very few, and I trust I am not unmindful, but often cherish a deep sense of gratitude for my vigorous health and activity in my old age.

With best wishes, I am, very truly,
Your friend, P. P. NALLE.

Adrian, Mich., Jan. 11, 1903.

The Southern Planter,
Richmond, Virginia.

Gentlemen:

The writer has gone through every page of your current issue, and believes, without exception, it is the most interesting number of any agricultural paper that ever came to his office.

We congratulate you upon your grand success. Very respectfully,

Dr. J. H. REYNOLDS, Advertising Man
Page Woven Wire Fence Co.

Wood's Seeds.

Twenty-five years practical experience, and the fact that we do the largest business in Seeds in the Southern States, enables us to supply every requirement in

GARDEN AND FARM SEEDS

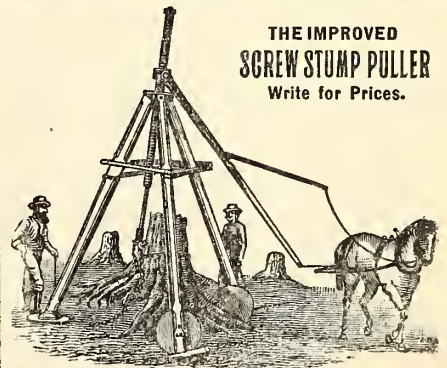
to the very best advantage, both as regards quality and price.

Truckers and Farmers

requiring large quantities of Seeds are requested to write for special prices. If you have not received a copy of WOOD'S SEED BOOK for 1904, write for it. **There is not another publication anywhere that approaches it in the useful and practical information that it gives to Southern farmers and gardeners.**

Wood's Seed Book will be mailed free on request. Write to-day: do not delay.

T. W. Wood & Sons, Seedsmen,
RICHMOND, - VIRGINIA.



THE IMPROVED
SCREW STUMP PULLER
Write for Prices.

Chamberlin Mfg. Co., Olean, N. Y., U. S. A.

HERCULES STUMP PULLER



Clears an acre of heavy timber land each day. Clears all stumps in a circle of 150 ft. without moving or changing machine. Strongest, most rapid working and best made.

Hercules Mfg. Co., 413 17th St., Centerville, Iowa.



Stump Pullers

grubbing - machines,
DERRICKS to handle
cane, cotton and tobacco.
Derricks to load manure.
Derricks for all purposes.

Dept. L. NATIONAL HOIST & MACHINE
CO., Chicago, Ill.

DEAFNESS CANNOT BE CURED

by local applications, as they cannot reach the diseased portion of the ear. There is only one way to cure deafness, and that is by constitutional remedies. Deafness is caused by an inflamed condition of the mucous lining of the Eustachian Tube. When this tube is inflamed you have a rumbling sound, or imperfect hearing, and when it is entirely closed, Deafness is the result, and unless the inflammation can be taken out and this tube restored to its normal condition, hearing will be destroyed forever. Nine cases out of ten are caused by Catarrh, which is nothing but an inflamed condition of the mucous services.

We will give One Hundred Dollars for any case of Deafness (caused by catarrh) that cannot be cured by Hall's Catarrh Cure. Send for circulars, free.

F. J. CHENEY & Co., Toledo, O.
Sold by Druggists, 75c.
Hall's Family Pills are the best.

WITH THE ADVERTISERS.

R. B. Williamson is advertising his "Invincible Sprayer" in this issue. He has a very interesting illustrated circular he would like to send to interested parties.

P. S. Lewis & Son are among the new advertisers in this issue. Their splendid herd of Short-horns, in which will be found the splendid bulls, Lord of Spring Creek, Cedric, Imp. Lavender Lad, Imp. Sir Wilfred Laurier, is well worth investigating before purchasing elsewhere.

This firm is going after the trade in this section, and will treat prospective buyers right, both as to price and quality of stock.

The Hard Steel Fence Co. has a card in another column. Many of our readers are familiar with their goods.

Hon. A. W. Harman, Jr., comes out with a Berkshire ad. in this issue. He offers some choice stock.

Latham & Co. are offering Spraying outfits. Look up their ad. and send for descriptive circular.

The Merchants' National Bank publishes a comparative statement covering 15 years of its business, which makes very interesting reading for any one interested in a safe and reliable banking institution.

R. J. Hancock & Son are offering for sale their noted horse, Aurus. Look up the ad. and send for his pedigree and price.

J. W. Randall would like to dig you an Artesian well. Look up his ad. elsewhere.

James Leffel & Co. have an interesting card on another page.

The Cash Supply and Mfg. Co. are advertising their "Michigander" Incubator.

W. M. Ostrander, the Philadelphia

HANNA
BARLEY

SPELTZ

MAC
WHEAT

OATS

BROMUS

ALFALFA
& C.

SALZER'S SEED NOVELTIES.

SALZER'S NATIONAL OATS.

Yea, farmers of America, lend me your ears, while I chant the merits of this new Oat Novelty.

Editors, Agricultural Writers, Institute Orators, all talk and write about this new Oat. It yielded in Wis 156 bu., in Ohio 187 bu., in Mich. 231 bu., in Mo. 255 bu. and in N. D. 310 bu., per acre, during 1903, and in 1904 you can grow just as easily 300 bu. per acre of Salzer's National Oats, as we can. Your land is just as good, just as rich and you are just as good a farmer as we are. We hope you will try this Oat in 1904, and then sell same for seed to your neighbors at a fancy price, next fall.

Macaroni Wheat.

It does well on arid, dry lands, as also on rich farm lands, yielding from 30 to 80 bu. per acre.

Speltz and Hanna Barley.

Greatest cereal food on earth. Yields 4 tons elegant straw hay and 80 bu. of grain, as rich as corn, oats and wheat ground together! Does well everywhere. Hanna Barley grows on dry, arid lands, yielding 80 bu. per acre.

Salzer's Home Builder Corn.

Positively the biggest eared early corn on earth, yielding in Ind. 147 bu., Ohio 160 bu., Penn. 183 bu., Mich. 220 bu. and S. D. 276 bu. per acre. It is really a marvelous corn. Sinks its roots deeply after moisture and nourishment and grows like a weed.

Bromus Inermis and Alfalfa Clover.

Bromus Inermis is the most prolific grass for permanent pastures on earth. Yields 7 tons hay per acre. Good on sand, lime, clay, gravel—yes, on all kinds of soils!

Alfalfa Clover produces more hay and better hay than any Clover known. It is good for 7 tons per acre.

Potatoes 736 bushels per Acre.

The Editor of the RURAL NEW YORKER says, "Salzer's Earliest Potato is the earliest out of 58 early sorts tried, and yields 444 bu. per acre, while Salzer's Early Wisconsin yielded for them 736 bu. per acre. Salzer's Potatoes for yield challenge the world!"

FOR 10c IN STAMPS

and the name of this paper, we will send you a lot of farm seed samples, including some of above, together with our mammoth 140 page illustrated catalog. Send to-day.

JOHN A. SALZER SEED CO. LACROSSE, WIS.

HALLOCK Combined Weeder and Seeder

The farmer who knows the value of light surface stirring and weeding of growing crops recognizes in this the prize implement. It is the flat tooth cultivator. You know what that means—its special adaptability, its service, its results. Increases crop 25% to 40%. There is but one flat tooth—the only satisfactory tooth—the Hallock patent. We have the right to manufacture it.

The Seeder Attachment

means getting a good stand of clover, timothy and other grasses. It sows them all, and its positive force feed can be adjusted to sow accurately from 2 to 18 quarts per acre. Especially valuable in the wheat fields, as the surface cultivation benefits the wheat and at the same time the grass seed is sown and lightly covered. The seeder can be readily attached to or detached from the weeder frame. Either is sold separately when desired. Catalogue is free. Don't fail to write for free book of field sketches, showing half-tones from photographs of the weeder in actual use.

Keystone Farm Machine Co., 1554 North Beaver Street, York, Pa.

"NEW UNIVERSAL" LINE OF GARDEN TOOLS

6 STYLES SEEDERS

Opens furrow, drops in plain sight, covers, marks. Models of Accuracy.



Details on full line tools in 1904 free catalogue. Write for it.

Double or Single Wheel Hoe

Cultivator, Plow, Rake. Changes quickly made. Cultivate between or astride the rows. Any depth, any width.



Note High Arch and Plant Guards. Bent Oak Handles on all Tools.

AMES PLOW COMPANY, 56 MARKET STREET, BOSTON, MASS.

For Sale by GRIFFITH & TURNER CO., Baltimore, Md

6 Tools in 1.

Combined seeder, marker, hoe, rake, plow, cultivator. Single or double wheel. Every adjustment easily made. For planting and all kinds of cultivation.



Wheel Plows

with cultivator, rake and hoe attachments. For garden and poultry yards.



real estate man, has a prominent ad. on another page.

The Rocker Churn Mfg. Co. is a new advertiser in this issue. They offer a churn of considerable merit.

The seed firm of Johnson & Stokes has a card on another page.

The J. B. Williams Co. are advertising their celebrated shaving soap.

The Truss & Cable Fence Co. resume their advertising with us again this season.

Look up the ad. of Dan Patch. The International Stock Food Co., his owner, have something interesting to say about him.

The Cozy Nook Poultry Farm is another new advertiser this season. They have some choice stock at right prices.

The Bullfield Farms are offering their Poland Chinas. Look up the ad.

L. W. Walsh has some high-scoring Plymouth Rocks for sale.

A. P. White, Jr., owner of the Accomac herd of Berkshires, offers a choice lot of stock in his ad. in another column.

Miniborya Farm has some splendid Berkshires for sale.

Morewood Poultry Farm is advertising its prize-winning stock.

The Chicago House Wrecking Co. has four ads. in this issue, and we invite the attention of our readers to all of them.

Buff Rocks are offered by H. L. Trolinger, another new advertiser, in this issue.

Some splendid young mules can be had of Louis de Lacroix. Refer to his ad.

Rose Dale Stock Farm has a choice offering of Aberdeen-Angus cattle.

The famous Mapes Manures are advertised on another page.

Single Comb White Leghorns are a specialty of C. G. M. Fink, as will be seen by his ad. in another column.

Some choice Essex Hogs can be had of L. G. Jones.

The Ohio Carriage Mfg. Co. is going right after the carriage and buggy trade of this section, as will be evidenced by their large ads. to be found elsewhere.

Hollybrook Farm offers some choice Berkshires, and also eggs from the prominent strains of pure-bred poultry.

Some choice Angora bucks can be had of M. S. Valentine. He sends us a splendid sample of mohair, taken from one of these bucks in last November. It was then about 6 inches long.

J. T. Janney has three ads. in this issue, to which we ask your attention.

The Bona Vista Nurseries have a large ad. on another page. They are offering some choice stock, which will be found in good, healthy condition.

"Bruddahs en sistahs," said old Parsons Sparks, "ef de church bell attract-ed people lak the dinneh bell, de pews would be filled in two minutes after de fus' ringin'."

FOUNDED

1802.

GOLD MEDALS:

Paris, 1900. Pan-American, 1901.

Thorburn's Seeds

for over a hundred years have been universally recognized as the standard of excellence. They received the GOLD MEDAL (the highest award) both at the Paris Exposition of 1900 and at the Pan-American, 1901.

Our Catalogue

—the 103d successive annual edition—contains a more complete assortment and fuller cultural directions than any other seed annual published. It is beautifully illustrated, not with highly colored exaggerations, but with the finest half-tones from life photographs. It contains 144 large size pages, and is in every respect and without exception the most complete, most reliable, and most beautiful of American Garden Annuals. We will mail it FREE.

Market Gardeners

are invited to send for our special price list of high-class vegetable seeds for truckers and large market growers. It contains all sorts of approved merit.

J. M. THORBURN & CO.,

36 Cortlandt St., NEW YORK.

..ELMWOOD NURSERIES..

—WE ARE GROWERS AND OFFER A FINE ASSORTMENT OF—

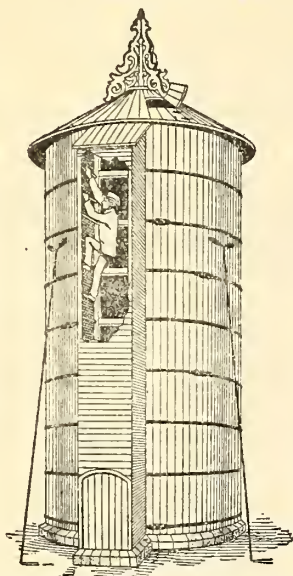
Apples, Peaches, Pears, Cherries, Plums, Apricots, Nectarines, Grapevines in large assortments, **Gooseberries, Currants, Strawberries, Horae-Radish, Asparagus, Dewberries,** and an extra fine lot **Raspberries.** Splendid assortment **Ornamental and Shade Trees, Ornamental Shrubs and Hedge Plants.**

EGGS from B. P. ROCK and BROWN LEGHORN FOWLS at \$1.00 per 12. Also a few pullets and cockerels of these breeds at \$1.00 each for immediate delivery. Write for Catalogue to

J. B. WATKINS & BRO., Hallsboro, Va.

The "LANSING"
PERFECT TUBULAR SILO
is the Best Silo Made.

It has continuous Hoops and continuous Door-way. Have no other.



Insist on having the Lansing, It Will Save Your Entire Crop.....

A. M. D. HOLLOWAY,
Builders Exchange, Phila., Pa., U. S. A.
Write for Catalogue and Prices.

Clark's Tools for Large Hay Crops



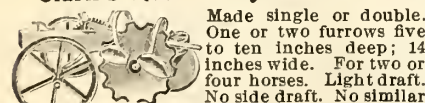
Clark's Rev. Bush Plow and Harrow cuts a track 5 ft. wide, 1 ft. deep. Connects the sub-soil water. It is an excellent machine for covering in sugar cane. Strength guaranteed.

Can plow a newly cut forest, stump, bush, or bog land, leaves land true, clean for any crop.

Clark's Double Action Cutaway Harrow moves 15,000 tons of earth in a day.
Send for Circulars.



Clark's Rev. Sulky Disc Plow



Made single or double. One or two furrows five to ten inches deep; 14 inches wide. For two or four horses. Light draft. No side draft. No similar

plow made. When Clark's grass tools are used as directed in his grass circular, we, the C. H. Co., guarantee them to kill wild mustard, charlock, hard hack, sunflower, milk weed, morning glory, Russian thistle or any other foul plant that grows, or money refunded. Now is the time to commence work for next year's seeding to grass.

THE CUTAWAY HARROW CO.,
Higganum, Ct., U. S. A.



All Grinding

Ear corn, with or without husks, and all grains ground fine or coarse as wanted with the

KELLY
DUPLEX
Grinding Mills.

They never choke. Double cob breakers and double set burrs give greatest speed. Take little power, any kind. Strong and durable. 4 sizes. Catalog free.
THE O. S. KELLY CO., Springfield, Ohio.

A NEW FERTILIZER.

NITRATE OF POTASH.

A fertilizer chemical about which little is known by the average farmer, but to-day the cheapest source of potash and nitrogen, is Nitrate of Potash. It is practically the only extensive source of potash not controlled by the Potash Trust.

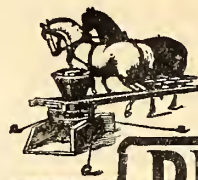
Nitrate of Potash is imported from India. The total exports from that country to all points are about 20,000 tons, of which about 6,000 tons comes to the United States, 6,000 to England, 4,000 tons to China and Japan, 2,500 tons to the Continent, and 1,500 tons to Mauritius. Of the 6,000 tons brought to this country, about 2,500 tons are used by the packers, 2,000 tons by powder manufacturers, and 1,500 tons by fertilizer manufacturers. It is only during the last two years that fertilizer manufacturers have used the material, but the consumption in this direction is increasing. All Nitrate of Potash is sold under a guarantee of "under 6 per cent. refraction"; in other words, 94 per cent. Nitrate of Potash. Ninety-four per cent. Nitrate of Potash contains about 45 per cent. actual potash and 16 per cent. ammonia. In other words, 2,000 pounds of 94 per cent. Nitrate of Potash, analyzing 45 per cent. actual potash and 16 per cent. ammonia, contains as much actual potash as 1,850 pounds of 90 per cent. sulphate of potash, and as much ammonia as about 1,675 pounds of 96 per cent. nitrate of Soda—over 3,500 pounds of the two combined.

This material is worth to-day at New York for February-March delivery in lots of one ton and over \$70 per ton, f. o. b. cars. In car-load lots, ex vessel, \$67.50 per ton. It is in mixtures where potash in the form of sulphate is usually used as in tobacco fertilizers that this material shows the greatest economy. Tobacco stems, when distilled, produce potash in the form of Nitrate of Potash, which would certainly show that this material is an ideal source of Potash and Nitrogen for this crop.

With nitrate of soda, worth \$42.50 per ton, and sulphate of potash, 43.50 per ton, in car-load lots at seaboard, Nitrate of Potash, at \$67.50, compares as follows:

1,850 lbs. of 90 per cent. sulphate of potash at \$43.50 per ton	\$40.23
1,675 lbs. of 96 per cent. nitrate of soda at \$42.50 per ton	35.59
3,225 lbs.	\$75.82
2,000 lbs. of 94 per cent. nitrate of potash, their equivalent. 67.50	

1,525 lbs saved in freight and in cost per ton \$8.32
Nitrate of Potash is a white crystalline material, easily soluble in water, and, of course, its potash and nitrogen contents are at once avail-



No Money In Advance.

We will send any responsible farmer a

DITTO'S

Triple Geared, Ball Bearing, FEED GRINDER

to test on his own farm. Grinds ear corn and all small grain. If it is not the easiest running, with largest capacity, don't keep it. It is strong and powerful—a time saver and a money maker. Send for circulars and full particulars.

G. M. DITTO, Box 48 Joliet, Ills.



You Try, It.

It costs nothing. Return at our expense if this mill fails to grind shelled corn, ear corn, all grains or mixed feed stuffs, easier, faster and better than any other.

New Holland Mills

are the practical, every day mills for every day wants. No other good mill at so low a price. Made in 3 sizes. Adapted to any kind of power. Don't fail to get our free catalogue before buying.

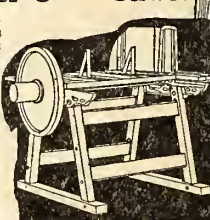
NEW HOLLAND MACHINE CO.,
Box 153, New Holland, Pa.

Leave Off Chopping, wasting your time and strength. It is easy work—turning the wood pile into money or keeping up your own fires with

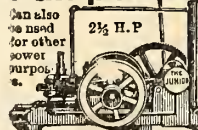
Freeman's Wood Saws.

Easy, perfect working machines of varied patterns and right prices. We also make the famous Freeman Windmills, Corn Shellers, Feed Cutters, etc.

Ask for our catalogue 110
S. FREEMAN & SONS
MFG. CO.,
Racine, Wisconsin.



the "Weber Junior" Pumper



Is all complete, ready to attach to pump. Equals 30 men pumping water. Uses but little gasoline. Is shipped crated, completely erected, all connections made. Easy to start, any one can operate it. Every one guaranteed. Other sizes up to 50 H. P. Send for catalogue. Weber Gas & Coal Co., Box 128 Kansas City, Mo.

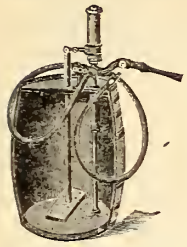
Make Your Own Fertilizer



at Small Cost with
Wilson's Phosphate Mills
From 1 to 40 H. P. Also Bone Cutters, hand and power, for the poultrymen; Farm Feed Mills, Graham Flour Hand Mills, Grit and Shell Mills. Send for catalogue. WILSON BROS., Sole Mfrs., Easton, Pa.

WE PAY \$33 A WEEK and expenses to men with rigs to introduce Poultry Compound. International Mfg. Co., Parsons, Kan.

THE BEST SPRAY PUMP ON EARTH



We know its merits from practical experience. Having used almost all known pumps in our own orchards, consequently we are able to judge of its superiority over all others. It is the most durable pump made. The easiest working pump; no stuffing boxes to look after. The handle is adjustable to suit the height of the operator. The agitator is a simple, direct motion, and keeps the solution thoroughly mixed. A pressure of 150 to 200 pounds can be easily obtained. Hand and Geared Vineyard Sprayers a specialty. Patented and manufactured by **LATHAM & CO.,**

Sandusky, O. Send for Catalogue.

Century Sprayer.

Best barrel sprayer made. Capacity and adaptability to suit all requirements.



These are features: Its valves are bronze balls. Cylinder and plunger are brass. Indestructible packing crimps. Large air chamber. Agitator that agitates. Its low

PRICE PLEASES

We make twenty styles sprayers. Every need specially met with Hand, Bucket, Knapsack, Power Sprayers. Spraying catalog free. Booklet on insects and plants and fruit diseases 10c.

THE DEMING CO., Salem, O.
Benton & Hubbell, Western Agents
Chicago, Ill.

Get the Best

A Good Spray Pump earns big profits and lasts for years.

THE ECLIPSE

is a good pump. As practical fruit growers were using the common sprayers in our own orchards—found their defects and then invented The Eclipse. Its success practically forced us into manufacturing on a large scale. You take no chances. We have done all the experimenting.

Large fully illustrated Catalogue and Treatise on Spraying—FREE.

MORRILL & MORLEY, Benton Harbor, Mich.

SPRAY
AND
FORCE PUMP
HAS NO EQUAL
PRICE REASONABLE
CATALOGUE FREE
AGENTS WANTED
THE HOIL MFG. CO.
333 MAIN ST.
BUFFALO, N. Y.

Defender Sprayer

All brass, easiest working, most powerful, automatic mixer, expansion valves, double strainer. Catalogue of Pumps and Treatise on Spraying free.

AGENTS WANTED:
J. P. Gaylord, Box 82 Catkill, N. Y.

able, as is the case with nitrate of soda and sulphate of potash.

In certain provinces of India, during the dry season, this material comes to the surface and crystallizes. This crude product is scraped up and taken to Calcutta, where it is refined to 94 per cent. Nitrate of Potash.

EDMUND MORTIMER & Co.
New York.

JUDICIOUS SPREADING OF MANURE.

Probably no branch of farm work is of as much importance to the progressive farmer of to-day as the distribution of manure in such a way as to derive the most benefit, consequently his attention has turned to the more adequate way—that of spreading by machinery.

Several of the manufacturers of farm implements have put Manure Spreaders on the market in the last few years, and among these, reaching towards the height of perfection, is the Great Western Endless Apron Spreader. There are many strong points in favor of this machine, any one of which might serve to put it in a class by itself. Principal of these would seem to be the Endless Apron, which admits of reloading without the trouble of stopping to crank it back and of hauling about double the amount of manure that can be handled by a half apron machine.

The combined hood and end-gate serves the dual purpose of keeping the manure from beater while loading, and acts as a hood or shield while in motion, and is changed from gate to hood by means of the lever, which throws the machine in operation, without leaving seat. The beater will not carry over hard chunks or bunches of manure until they are thoroughly torn to pieces or pulverized. In fact, every detail for spreading has reached a surprising degree of completeness in this machine. It also spreads straw, chaff, sawdust, etc., for mulching strawberry plantations, etc.

We might say a great deal more for the Spreader, but feel you will get more good from the large illustrated catalogue which the Smith Manure Spreader Company will gladly mail you if you ask for it. See their advertisement in another column.

Hastings, Fla., Nov. 13, 1903.
Griffith & Turner Co.,
Baltimore, Md.

Gentlemen:

It is a pleasure to say that all my dealings with you have been more than satisfactory, and so far as I know, all of your stuff that has come in here has given satisfaction in price and quality.

Yours,

C. G. WHITE.

A neat Binder for your back numbers can be had for 25 cents. Address our Business Office.

Wise Man's Wagon.

The man who has had experience in running a wagon knows that it is the wheels that determine the life of the wagon itself. Our

ELECTRIC STEEL WHEELS

have given a new lease of life to thousands of old wagons. They can be had in any desired height, and any width of tire up to 8 inches. With a set of these wheels you can in a few minutes have either a high or a low down wagon. The Electric Handy Wagon is made by skilled workmen, of best selected material—white hickory axles, steel wheels, steel hounds, etc. Guaranteed to carry 4000 lbs. Here is the wagon that will save money for you, as it lasts almost forever. Our catalog describing the uses of these wheels and wagons sent free. Write for it. **ELECTRIC WHEEL CO., BOX 146 QUINCY, ILLINOIS.**

ELECTRIC

WE'LL PAY THE FREIGHT
and send 4 Buggy Wheels, Steel Tire on, - \$7.25
With Rubber Tires, \$15.00. 1 mfg. wheels 3/4 to 4 in. tread. Top Buggies, \$28.75, Harness, \$3.60. Write for catalogue. Learn how to buy vehicles and parts direct. Wagon Umbrella FREE. W. V. BOOB, Cincinnati, O.

SAW YOUR WOOD

RUNS EASY
No Backache
weights only 41 lbs.
EASILY CARRIED
SAVES DOWN TREES

With a **FOLDING SAWING MACHINE**, 9 CORDS by ONE MAN in 10 hours. Send for FREE illus. catalogue showing latest improvements and testimonials from thousands. First order secures agency **Folding Sawing Mach. Co. 55 N. Jefferson St. Chicago, Ill**

STEEL ROOFING

100 SQUARE FEET \$2.00
Painted two sides; nails included. Strictly new, perfect, Semi-Hardened Steel Sheets, 6 feet long. The best Roofing, Siding or Ceiling you can use. No experience necessary to lay it. An ordinary hammer or hatchet the only tools you need. Either flat, corrugated or "V" crimped. Write for our Free Catalogue No. 166 on Farm Supplies, Furniture, etc. **CHICAGO HOUSE WRECKING CO., W. 35th & Iron Sts., Chicago**

WARRINER'S CHAIN HANGING STANCHION.

CLEAN, SAFE, COMFORTABLE.
MFG. BY W.B. CRUMB Forestville, Conn.

WANTED.

To send to every town sample of the new "Kant-Klog" Sprayer. First applicant gets lowest price and agency. Big money made with sprayers during winter. Full particulars free. Address, **Rochester Spray Pump Co., 21 EAST AVE., ROCHESTER, N. Y.**

TENT CATERPILLER DESTROYER.

MANUFACTURED AND SOLD BY R.B. WILLIAMSON, CLIFTON SPRINGS, N.Y.

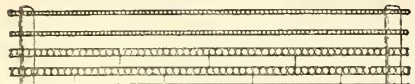


WIRE • FENCE

Heavy lateral wires, heavy hard steel stays, coil spring wire, sure Grip Lock. In strength appearance and durability, the Hard Steel can not be excelled. Write for catalog and price.

THE HARD STEEL FENCE CO., Cuyahoga Falls, O.

Don't Be Talked



into buying a weak flimsy fence, buy one that has strength and durability then you get your money's worth. Let us mail you free sample. The Truss & Cable Fence Co., 60 Cuyahoga Bldg., Cleveland, O.

2,000 Coils

of No. 8 Galvanized Fencing Wire FOR SALE.

Price, \$2.40 cash per 100 lbs. Average weight of coils, 112 lbs.

RICHMOND MERCHANDISE AND TRADING CO., Richmond, Va.



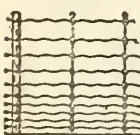
DON'T YOU WANT

to try a better fence this year than that you bought last year? You'll find it in the PAGE. PAGE WOVEN WIRE FENCE CO.: Adrian, Mich.



WIRE \$1.40 PER 100 LBS.

SMOOTH GALVANIZED WIRE put up 100 lbs. to a bale, gauges from 11 to 14 inclusive. Lengths running up to 250 ft. Per 100 lbs. \$1.40. Fence Staples, all sizes, per 100 lbs. \$2.00. Wire Nails, assorted in a keg, per 100 lbs. \$1.70. Barbed Wire, etc., at low prices. Ask for free catalogue No. 11, on merchandise of all kinds from Sheriffs and Receivers' sales. CHICAGO HOUSE WRECKING CO., 35th & Iron Sts, Chicago.



Genuine Spiral Spring Wire FENCES AND GATES

If your dealer does not have our goods in stock you can buy direct at Manufacturers' Price. Write for Catalogue and secure agency.

INTERNATIONAL FENCE AND F. CO.
Columbus, Ohio.



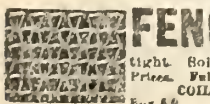
LAWN FENCE

Many designs. Cheap as wood. 32 page Catalogue free. Special Prices to Churches and Churches. Address: COILED SPRING FENCE CO., Box Q, Winchester, Ind.



SENT ON TRIAL

A Fence Machine that will make over 100 Styles of Fence and from 50 to 70 rods a day AT ACTUAL COST OF WIRE. Horse-high, Bull-strong, Pig and Chicken-light. Wire at Wholesale Prices. Catalogue Free. Kitselman Bros., Box 165, Muncie, Ind.



FENCE! STRONGEST MADE.

Bull strong, Chicken light. Sold to the Farmer at Wholesale Prices. Fully Warranted. Catalogue Free. COILED SPRING FENCE CO., Box Q, Winchester, Indiana, U. S. A.

THE BEEF BREEDS.

The present position and future of the three great beef breeds, as evidenced by the International show.

(We take the following comment on the breeds from representative breeders writing for the Breeders' Gazette.—Ed.)

HEREFORDS.

The position of the Herefords as one of the greatest if not the premier beef breed of America appears to be more firmly entrenched than ever. Recent events, most notably the International, have emphasized the great merit and the wonderful popularity of this breed. Despite many unfavorable influences, such as internal strife in the association and the general decline in values of beef cattle, as well as pure-bred stock, and although many of the most successful and well-known showmen of the breed were, unfortunately, not represented, the exhibit of Herefords at the International was of such merit as to make the heart of every Hereford breeder rejoice. The hardy and rugged white-faced grazers—hustlers and rustlers everywhere—fought their way to the front places in nearly every inter-breed contest in the great show. The exigencies of the present low-price period demand just such easy keeping and early maturing cattle as were placed at the head of those wonderful classes, and as the basis of these decisions, as stated by the Scottish judge, was their fitness for the block, the farmer and the feeder, who of necessity has the block as the goal for his cattle, has in these winners the ideal type for their breeding and feeding cattle—the Hereford type, compact, close to the ground, with ample bone; good side and top lines, full heart girth, a symmetrical frame well covered and filled with valuable cuts, a type with little waste for the butcher, and with a grand, intelligent head for the breeder; a head full of character, refinement and promise of future usefulness in the herd. The "white-face" victory was made more emphatic when the car-load of yearling Herefords was made the grand champion load of the show, being a victory for early maturity and a substantiation of all claims that have been made as to the early maturing qualities of this breed. "Truly a great Hereford show," would be an apt appellation for the recent International, and that can be said without a desire to cast a shadow over the magnificent showing of the other beef breeds. * * *

Grass has certainly been produced for the farmer as his most profitable crop, and the Hereford has no doubt been created as the best converter of that crop into prime beef. Compare the broad, capacious muzzle and the powerful jaw of the Hereford with the long, slender head and small nose of the other breeds; the short, wide head and short neck, short legs and strong bone. This beast truly was intended

UNION LOCK POULTRY FENCING



HAS BEEN FULLY TESTED AND FOUND SUPERIOR TO ALL OTHERS.

Will fit uneven ground without cutting. Every part can be stretched perfectly. Made of

high grade galvanized steel wire. All horizontal lines are cables, making it stronger. Has finemesh at the bottom for small chicks. We also make extra heavy for gardens, lawns, etc. The largest poultry farms are using this fence—over 700 rods by Lakewood (N. J.) Farm Co. We pay freight and satisfy every one or no sale. Can ship from N. Y., Chicago, or San Francisco. Write for free catalog of Farm, Lawn and Poultry Fencing.

CASE BROS., Box 340, Colchester, Conn.

FENCE We'll tell you the cheapest and best way to build it. Of any kind of wire, for any requirement, with cheap labor, no machine and we'll tell you how to fix your old fences too. Write S. E. FENCE CO., 142 W. 3rd St., Peru, Ind.

How to Sow Seed

and all the details of how, when and what are treated elaborately in a seedling book. The



descried. All Free. Tells how to save 1/3 the seed. Get Seed Sower's Manual—FREE. Gondo! Co. 63 Main St., Antrim, N. H.

FEED MILLS.

Every Man His Own Miller.

The latest improved. Does all kinds of work. Most durable; has ground over 15,000 bushels without repair or expense. The fastest grinder; has ground 300 bushels in 4 hours. Lightest draft and lowest price. The World's Best! Send for prices to the manufacturers

N. M. FIELD MFG. CO., St. Louis, Mo.

WELL DRILLING MACHINES

The most successful money-making machines ever made. Also machines for boring wells with augers by horse power. Write us if you mean business.

Loomis Machine Co., Tiffin, Ohio.


ARTESIAN WELLS

DRILLED ANYWHERE.

I use the most modern machinery, execute orders promptly and guarantee satisfaction. Correspondence solicited. JNO. W. RANDALL, White Plains, N. Y.

NO HUMBUG Fairer Swine V. Stock Marker and Calf Dehorner. Stops swine from rooting. Makes 38 different ear marks. Extracts horns. Price \$1.50. Send \$1 for trial. If results, send balance. Pat'd Nov. 6, 1902. Hog and Calf holder only. GEORGE BOOS, Mr., FAIRFIELD, IOWA.

**STOCK LICK IT
STOCK LIKE IT**



**BLACKMAN'S
MEDICATED
SALT BRICK**

The only guaranteed Tonic, Blood Purifier, Kidney and Liver Regulator and aid of Digestion for all stock. A sure hit on worms. Ticks cannot live. No dosing, no drenching, and no waste of feed. Your horse his own doctor. Endorsed by thousands.

Full descriptive circulars, testimonials, etc. address
Blackman Stock Remedy Co.
930 Highland Park, Chattanooga, Tenn.

**Lump
Jaw**



Save the animal—save your herd—cure every case of Lump Jaw. The disease is fatal in time, and it spreads. Only one way to cure it—use
Fleming's Lump Jaw Cure
No trouble—rub it on. No risk—your money back if it ever fails. Used for seven years by nearly all the big stockmen. Free hook tells you more.

**Spavin
and Ring-bone**

Once hard to cure—easy now. A 45-minute treatment does it. No other method so easy—no other method sure.

Fleming's Spavin and Ringbone Paste cures even the worst cases—none too old or bad. Money back if it ever fails. Free illustrated book about Lump Jaw, Spavin, Ringbone, Splint, Leg Spavin and other stock ailments. Write for it.
FLEMING BROS., Chemists,
280 Union Stock Yards, Chicago, Ill.

USE
**FOUTZ'S
HORSE
AND
CATTLE
POWDER**

A medicine which makes sick animals well, the diseased whole, the weak strong and the thin fat. It will restore lost Appetite, expel Worms and cure Chronic Cough, Heaves, Influenza, Distemper, Hide-bound, Indigestion, Constipation, Flatulency and all Stomach and Bowel trouble.

The finest of all animal vitalizers and tonics and the only one which increases the coefficient of digestibility of protein.

Get the Genuine or send us. Pamphlet No. 1 Free.
Sold by All Dealers.

DAVID E. FOUTZ
BALTIMORE, MD.

PRICE
25¢ per lb.
100¢ per 100 lbs.
200¢ per 200 lbs.
50¢ per 50 lbs.

DEATH TO HEAVES
Guaranteed



NEWTON'S Heave, Cough, Distemper and Indigestion Cure. A veterinary specific for wind, throat and stomach troubles. Strong recommendations. \$1.00 per can. Dealers. Mail or Ex. paid. **Newton Horse Remedy Co., Toledo, Ohio.**

to go over the pastures much as does the great modern wheat header, thrasher, and sacker combined, harvesting the crop quicker and better than the old-time sickle, and all ready for market at one operation and one expense. The "white-face" is the up-to-date steer. He is only fast enough for the times. What a mouthful he crops at one bite! Taking less exercise and covering less territory, he quickly fills the first stomach; lies down and goes to making beef. In a mixed bunch of cattle, you will notice the Herefords all down first and masticating their quickly-harvested breakfast of grass, while the Short-horns and cattle of other breeds, with slender nose, long neck, leg, and large paunch, will not be down till the Herefords are almost ready to start again. Is there any better reason why the "Herefords" should make more beef from grass than any breed of which we have knowledge? Where man has a need, Nature invariably supplies the same, and that close at hand. Man has, through all the Eastern and most of the Middle States, by continuous robbing of the land produced a great sickness of the soil. Nature and the careful breeding operations of the founders and fosterers of the Hereford breed have provided a remedy. Talking with a Virginia farmer at the International, the writer was much impressed by his remark that the greatest need of his State and surrounding States was blue grass, clover and Hereford cattle. The combined use of these three great producers of wealth will in a decade restore to former conditions of fertility the soil, will double or triple the value of these farms, and develop a condition of thrift unsurpassed by that even existing in the vales and hills of Western England. A remark made recently by one of our local butchers impressed me with the fact that ultimately the breeding and feeding cattle of all the Middle States must one day wear that stamp of excellence, the white face. He said: "While I cut many good carcasses from grade Short-horn, Angus, and cattle of mixed breeding, I rarely find a white-faced steer or heifer that does not cut out more profitable meat for me than the average, and I can even afford to pay a little more money for them and still make more profit. Besides that, their rich-ribbed carcasses attract more attention hanging in my shop, and increase my sales of good meat. What I like is the average of the Hereford carcasses; they are nearly always good." Another butcher very recently pointed to a carcass hanging in his shop, stating that there was a heifer that had been without a bite of grain for a year, and was the fattest beef he had butchered in a year.

These plucky cattle, the breed that has revolutionized the beef industry of the country; the breed that has covered the range and the desert of the Far

Horse Owners! Use
GOMBAULT'S
**Caustic
Balsam**
A Safe Speedy and Positive Cure



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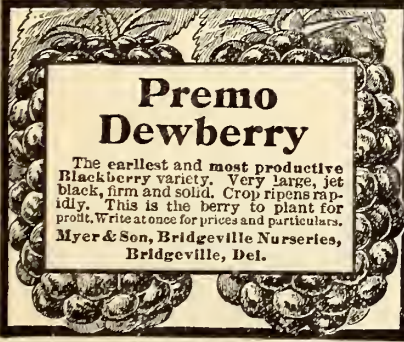
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outstanding quality of the "doddie." Then there were a few importers proclaiming facts that sounded like fiction regarding the premium paid for Angus beef in the markets of the Old World. Now there are three thousand good American cattle-men interested in the welfare of this great breed, and nearly one thousand breeders recording cattle, while the "fairy tales" of the early importers have been demonstrated to be true by fifteen years of consecutive market-topping in the greatest fat cattle markets of our country. Then Black Prince, imported especially for the occasion, won down on the Lake Front at the old American Fat Stock Show in Chicago, with only a few of the faithful to do him honor. Now the Angus grand champions at the International Exposition are the popular ones, and are crowned amid the greatest clatter and enthusiasm, and where an Angus contestant for grand champion honors fails to receive the purple ribbon, applause is withheld and the judge himself feels that he has made a mistake, and begins at once defending his position on the award. Then, Angus breeders would have been exceedingly proud of a grand championship. Now they expect it, and, like spoiled children accustomed to being denied nothing, are absolutely broken-hearted if they fail to get it.


Especially is this true in car-loads where fourteen years prior to this year they have furnished the highest-priced car-load each year sold on the American markets. This year they were so unfortunate as to have their crack car-load protested on account of age. The contest was for the best car-load, any age or breed, and this load was given the award by the judge, yet, as it was not properly entered in its class, it was thrown out of the show altogether, and the reserve Hereford load was given the grand championship. The Angus were thus deprived of furnishing the highest-priced car-load of 1903, as the price went simply as the International Exposition ribbon went. Including this reserve champion load, which was awarded the grand champion prize, there were sold at public auction during the International Exposition of 1903, according to *The Gazette*, twenty-four car-loads of grade Herefords at an average of \$5.96 per cwt.; twenty-four car-loads of grade Short-horns at an average of \$5.63 per cwt., and twenty-four car-loads of grade Aberdeen-Angus at an average of 6.33 per cwt., being 37 cents per cwt. more than the Herefords and 70 cents per cwt. more than the Short-horns, in actual competition at auction among stock-yards buyers. So that the term "market topper," as applied years ago by your journal to the Aberdeen-Angus breed is as applicable as ever, and they still mean one and the same thing. These prices prove that it is not impossible to find one load of some other breed that will equal in quality

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that of the Angus, but when it comes to a number of car-loads, the universal quality of the Angus is simply outstanding. Mistakes may be made. Judges may differ and technicalities may arise to deprive the Angus of some small honor, but his inherent quality of flesh and his ability to fatten at an early age will cause him to continue to top our markets for the next fifteen years, as he has the past fifteen, and then go on throughout ages of market-topping as he has done in the markets of the Old World. A quotation that Col. Harris once made use of in reference to his favorite breed seems very appropriate here: "Men may come and men may go"—but the Aberdeen-Angus goes on with his market-topping forever.—W. C. McGavock.

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So far as the Short-horn breed is concerned, it never was, it seems to me, in a better condition in itself than it is today. When one looks back twenty-one or two years ago to the condition of the breed at that time, the change for the better is something wonderful. At that time we were torn with quarrels and dissensions, criticising each other's cattle, breeding in divergent directions, having different ideals as to what should be aimed at, and the whole strength of the great interest was being destroyed and dissipated. At the same time, rival breeds were being brought in upon the temporary wave of prosperity, stimulated by novelty, and breeders in every direction were abandoning the Short-horns and taking Herefords and Angus. The extravagant claims of these newer breeds in this country have been tested by time, and the world again decided, as it has done before, that they are local and limited in their usefulness, that the Short-horn is the one universal breed, and that the world over the Short-horn cow is the farmer's cow—the universal remedy for the scrub.—W. A. Harris.

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A proper amount of sleep is, of course, absolutely essential to continued good health; but if dietetic habits are correct, it is a matter which will regulate itself. If a rule is needed, one will follow naturally from the fact that almost every one feels languid on waking, and is disposed to take another nap, no matter how long he has been sleeping. This is a morbid sensation, which it would take too long to explain here. It is enough to say that lack of sleep should be made up, if possible, at the beginning and not at the end. The best general rule is to rise at a given hour every morning, whether tired or not, and go to bed when sleepy.—February Century.

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215 acres in upper Fairfax county, 20 miles from Washington; 6 miles from railroad; fronts on pike; near village with stores, post-office, churches and shops. Splendid brown chocolate clay soil. Seven fields, watered by branches and springs. A good 6-room frame house and all necessary farm buildings; 60 acres sown in wheat and grass; 25 in rye and grass; 30 in meadow, balance in pasture and for corn—all in good condition. Price, \$25.00 per acre; one-third cash, balance on 6 years' time, if desired.

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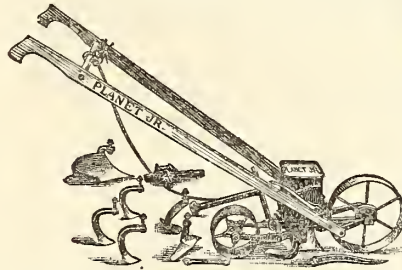
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WASHINGTON NOTES.

In many farm sections the usual method of disposing of the body of a dead animal is to drag it off into the woods and let the crows and buzzards make away with it. As the country becomes more thickly settled, this practice carries a serious menace, especially where animals die of contagious diseases. It has even been found that in cases of virulent diseases, like anthrax, ordinary burying is not an entire safeguard. The germs of such diseases retain life for many years, even in the soil; if they are left above ground or thrown into a ditch or stream, the danger of disseminating the disease is increased many fold. The Department of Agriculture recommends deep-burying of such diseased bodies, with the free use of lime, and also burning. The Nevada station recommends the lime method for small animals, and burning for large ones. Professor McDowell, of that station, describes the complete destruction of a thirteen-hundred pound body, burned in a trench three feet deep, through the use of five gallons of kerosene oil, five-eighths of a cord of wood, and the time of two men each for two and one-half hours. If the animal is to be dragged any distance, it should be placed upon a litter or rough sled, which should also be burned; otherwise germs may be distributed along the entire trail.

* * *

The Department of Agriculture has in type a timely farm publication, entitled "Rations for Laying Hens." Professor Wheeler, of the New York Experiment Station, states that when the egg yield of a hen is one hundred per year, the production of a pound of eggs required 4.56 pounds of digestible organic nutriment in the feed, and as the egg yield increases, the proportion of nutrients increases. The natural feed of poultry, it is stated, consists of grain, insects, green forage and grit, and, accordingly, in domestication, it is reasonable that they should be fed cereal grains and mill products, such animal foods as meat, meals, and skimmed milk, and also an abundance of green food, or such substitutes for it as roots or steamed clover. Oyster shells, grit, and an abundance of clean drinking water are also prime requirements.

* * *

Why not determine to spray every apple tree this spring and not have a wormy apple. Spraying against some of the fungus diseases, such as grape rot, for instance, is a very laborious task, since the operation has to commence with the first swelling of the buds, and be repeated every fifteen or sixteen days until the grapes are pretty nearly grown, so that if one has only a small private vineyard it may well be considered too much trouble; but killing the codlin moth and having worm free apples is too easy and simple a task to let go by. The moth lays its egg in the blossom, and all you

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Mention the SOUTHERN PLANTER in writing.

want is to get some Bordeaux mixture and arsenic there first, so that the young larva will eat and die.

In the United States corn is a favorite feed for chickens, though, as Professor states, common grains "seem practically interchangeable."

In Ontario, an important poultry region, according to Professor Graham, of the Ontario Agricultural College, wheat is the most popular feed. Corn is not used there to so great an extent as in New England, though, he believes, from its high fuel value, that it is an important addition to winter rations. Oats, owing to the large percentage of hull, are somewhat indigestible. Barley is very good, and by many considered next to wheat.

The practice of successful poultry raisers and the results of numerous tests show that the day's rations should be made up of both whole grain and grain ground up into a mash.

Opinions differ as to the proper time for feeding whole grain and mash. An objection to feeding mash in the morning, it is stated, is that the hen is likely to become gorged with food and take to the roost for the rest of the day, resulting in her becoming too fat and egg production small. The objection to feeding the mash at night is that it becomes quickly digested, and the bird has not sufficient food to last it during the long winter night; but this objection can be overcome by giving a little whole grain after the mash at night.

In experiments at the West Virginia station, the egg production was practically the same, whether the mash was fed in the morning or at night.

A test at the Utah station showed that pullets fed dried blood as a part of the ration began to lay earlier than those given none.

The experiments of the New York station bring out very clearly the importance of providing laying hens with rations containing an abundance of mineral matter, a point sometimes neglected. Rations should be well supplied with lime and phosphates, essential in the formation of bone, shells and tissues. Mineral matter is largely lacking in grains, but can be supplied by animal food, oyster shells and bone ash.

* * *

An effective way to retard early swelling of fruit buds, which are thus liable to get nipped by a late spring frost, is to spray with whitewash. White surfaces, it is well known, will not readily absorb the sun's rays, and experiments have shown that treatment of this sort on peach trees has delayed blossoming nearly a week.

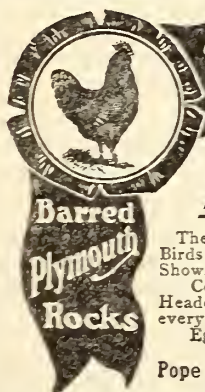
* * *

Okra is a plant which should be in every garden. Okra soup is a great Southern dish, but in the North it is not so well or generally known. The plant is a prolific yielder, though it is a little hard to start in heavy

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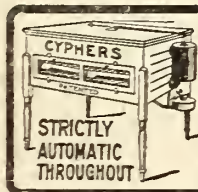
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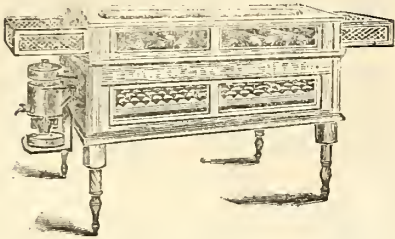
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ground, and should be sowed thick enough to allow for thinning three-fourths of the plants. A row fifty feet in length will supply a large family, and also dried pods enough for many fine winter soups. It is about as good this way as fresh, and, to my taste, fully as good as the canned okra, which is quite expensive.

* * *

As a cultivated plant, the Dandelion is assuming a place of some importance in farm gardens, and in the New England market gardens it is grown extensively, yielding large returns per acre. They are sown in the early spring, cultivated during the summer, and thinned to eight or ten inches apart. They are not fit for market until the following spring, and are then best when partially blanched. The Maine station states that they can be grown profitably at 50 cents per bushel, though the price received is often much higher.

* * *

The good roads sentiment is apparently growing. Representative Aiken, of South Carolina, has just introduced a bill similar to the one introduced the other day in the Senate by Senator Latimer, of the same State. It provides for a Bureau of Highways and for the construction of good roads by the Federal Government and the States in co-operation, each to bear one-half of the expense. The bill appropriates \$24,000,000 for this purpose.

* * *

Representative Trimble, of Kentucky, has introduced a bill to prevent the adulteration of blue grass, orchard grass and clover seed. Authority is given the Department of Agriculture to inspect all such seeds offered for sale, and any adulteration, mixing or misbranding discovered will subject the offenders to fines ranging from \$100 to \$1,000 for each offence, and also imprisonment. The bill is carefully drawn, and discusses the various species and varieties of blue grass, clover and orchard grass, and their adulterates, at some length.

Adulteration of all of these grasses, and particularly Kentucky blue grass, appears to be a common practice with many seed men. For this purpose, Canada blue grass (*poa compressa*) is used in mixture with Kentucky blue grass (*poa pratensis*), and many samples received by the Bureau of Plant Industry have been found to contain a major portion of the inferior or Canada species. More than five per cent. of the inferior species is considered, in the meaning of the bill, an "adulteration." The bill gives the Department of Agriculture authority to act only in cases of interstate shipments or importations.

* * *

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exclusively for 14 years. Write to me for what you want. Am sure can please you. My birds have been bred for laying qualities as well as shape and plumage. Cockerels, \$1 to \$2; eggs, \$1 per set of 15; 2 sets, \$1.50; M. B. Turkey eggs, \$3 per dozen.

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writing.

sentative Maynard, of Virginia, becomes a law. This farm comprises about five hundred acres, and the old manor house was used as the headquarters of Washington, Lafayette and Rochambeau. The Government has already erected a handsome monument at Yorktown to commemorate this victory, but its surroundings are neglected. Considerable sentiment, Mr. Maynard says, has already been worked up in favor of this movement, including memorials from the legislatures of Maryland, Ohio, New York, Delaware, North Carolina, Massachusetts, West Virginia, Utah and South Carolina, and also various patriotic organizations.

* * *

Don't make the mistake of putting
sawdust on between the strawberry
rows or, in fact, on any cultivated
land. It is ruinous.

GUY E. MITCHELL.

Hartford City, Ind., Jan. 15, 1904.
Dr. Jos. Haas, V. S.,
Indianapolis, Ind.

Dear Sir:

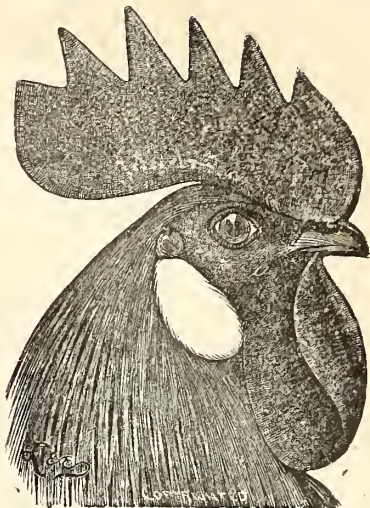
When I received your Hog Remedy my hogs had the cholera in earnest. Out of seventeen shoats, four had died and five were sick when the Remedy arrived. Four of the five that were sick died, as they were too far gone to eat, but the other was able to eat, and is now well and doing fine. No more took sick, and all are doing well now. Have been feeding them your Remedy twice a day. I had two young sows that would weigh 175 lbs. each that took very sick, and would not eat for three days. I took them away from the rest of the herd and put them where they could get no food except that which I gave them. I mixed some of your remedy in mill feed and put it before them. At the end of the third day they ate a little, and now, at the end of the tenth day, they are eating, and seem to be all right, and no one could tell they were ever sick. If there is any sickness in the rest of the herd, I have not been able to detect it. I have been feeding your Remedy every day for ten days. I will say this for Dr. Haas' Hog Remedy: It is the only Remedy that I have ever fed that I thought did any good. I will always feed it, for I am satisfied it has arrested disease in my herd.

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It describes Salzer's Teosinte, yielding 160,000 lbs. per acre of rich, green fodder; Salzer's Victoria Rape, yielding 60,000 lbs. of sheep and hog food per acre, together with Salzer's New National Oats, which has a record of 300 bu. per acre in 30 States; so, also, full description of Alfalfa Clover, Giant Incarnat Clover, Alsike, Timothy, and thousands of other fodder plants, Grasses, Wheat, Speltz, Barleys, etc.

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If you want honest whiskey, direct from our own distillery, with all its original richness and flavor, carrying a United States registered distiller's guarantee of purity and age, and saving you the dealers' enormous profits, then accept the offer we make you elsewhere in this paper. It is backed by a company with a capital of \$500,000.00 paid in full, the proud reputation of 36 years of continuous success, and over a quarter of a million satisfied customers; so you run no risk. The Hayner Distilling Company.

The "Acme" Pulverizing Harrow, while a "general-purpose" Harrow, is pre-eminently adapted to the preparation of ground for winter and other grain, where the drill is to be used, and for covering in the seed, where the drill is not used.

White Holland Turkeys.

I have a few very fine Toms left; first orders will get them. WHITE PLYMOUTH ROCK Cockerels—some nice ones. JOHN A. CLARK, Malvern Hill, Va.

EGGS FOR SALE.

WHITE HOLLAND Turkey Eggs \$2 per 10.

Rosecomb White Leghorn Eggs \$1.00 per 15; \$2.00 per 40.

White Plymouth Rock Eggs \$1.50 per 15.

Mrs. LIZZIE DYER, Versailles, Tenn.

FINE TURKEYS. "BRED FOR BREEDERS."

The Mammoth Bronze is the finest specimen of turkey in the world. I do not hesitate to say that I have the finest birds in Virginia. If you will file your orders now you will get choice ones out of a choice flock. I also have a few Barred Plymouth Rocks for sale. My fowls are all thorough bred. Write for circulars and rates.

PIEDMONT POULTRY PLACE,

Miss E. Caille Giles, Prop. Whittle's Depot, Va.

Mammoth Bronze Turkeys, \$8.00 per trio, some half wild stock. Healthiest and best I ever raised; 2 year old Goblers, \$5.00. B. P. Rocks, (Hawk-n's strain) trio \$4.00. Mrs. ANN E. WINN, Blantons, Va.

Hawksley Stock Farm

has 2 nice Berkshire Boars for sale, 6 mos. old; will have no more pigs to sell until April. A few S. C. B. Leghorn Cockerels left a \$1. each. Eggs in season. J. T. OLIVER, Allen's Level, Va.

BROWN LEGHORNS.

Young stock for sale in

Fall. Prices reasonable.

White Plymouth Rocks.

R. W. HAW, Jr., Centralia, Va.

S. C. WHITE LEGHORNS.

Fine Cockerels, Wyckoff strain, \$1.50. Fine Cockerels from Biltmore prize birds, \$2.00. Write for prices on pens, choice matings. Eggs per sitting, \$1.00.

Mrs. J. W. WALTERS, Christiansburg, Va.

COCKERELS FOR SALE,

Barred Plymouth Rock and S. C. B. Leghorn.

Biltmore and Thompson strains. Splendid birds \$1 each.

MRS. JNO. F. PAYNE,

University Station, Charlottesville, Va. CLAIRMONT DAIRY FARM.



HOW TO FEED AND BREED HOGS

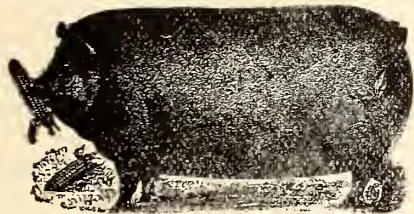
is of importance to swine growers. A practical, clean, common-sense swine paper for farmers can be had from now to January, 1905, by sending 10 Cents in Silver at once to

BLOODED STOCK,
Oxford, Pa.

I INSURE HOGS

and Pay for All That Die

when my Remedy is fed as a preventive. Write for plan. 28 years unparalleled success and the biggest money-maker for hog raisers known.



TRADE-MARK.

It will Prevent and Arrest Diseases, Expel Worms, Stop Cough and Pay for Itself Many Times Over by the Extra Flesh Produced without Extra Feed.

PRICES: 25-lb. can, \$12.50; 12½-lb. can, \$6.50, prepaid; packages, \$2.50, \$1.25 and 50 cents. None genuine without my signature on package or can label.

Govans, Md., Nov. 18, 1903.

DR. JOS. HAAS, Indianapolis, Ind.:

Dear Sir,—Since I began feeding your Remedy my hogs have greatly improved, and none have died. My hogs were all sick before I began using the Remedy—in fact, I had lost about 70 head. Yours truly,

CHRISTIAN GERMAN.

HOG BOOK FREE

"HOG LOGY," my book about hog raising, will be sent FREE, if you mention Southern Planter when asking for it. It has been revised and enlarged, contains 100 pages, fully illustrated, practical and complete, and worth many dollars to any swine raiser.

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BABY CHICK FOOD.

A perfect balanced food. Send for free sample and our large illustrated catalog of POULTRY SUPPLIES,

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EVERYTHING FOR THE FANCIER.

COLLIE PUPS

By Imported Sires. Sable and white and tricolors. Prices \$3 to \$15. Older ones correspondingly low. Book on Training, 50 cents: FREE if you buy a Collie. MAPLE MOUNT STOCK FARM, Albany, Vermont.

GOOD HOUSEKEEPING.

CHICKEN PIE.

In these days of high prices, any hint as to how to make one chicken do the duty of two will be welcome to both city and country housekeepers, so I am reminding them of good, old-timey chicken pie.

As Marian Harland would advise, "first catch your chicken," and do it at least a day before it is to be used. Dress it as for roasting, and put it into a closely-covered pot, with enough water to cover, and with a small piece of onion, a pinch of thyme, and a pinch of sage—not enough of any of these to give a decided taste—and let it boil until tender, but do not let it drop to pieces. Cut the chicken up, taking out the largest bones. Line the deep pan with a rich biscuit dough. Lay the pieces in and sprinkle pepper and salt over it. Slice three hard-boiled eggs over this, and pour the water the fowl was boiled in over it, adding some, if necessary, to cover the meat and eggs. Put dabs of butter about and sprinkle a generous handful of flour over the whole. Put the top crust on and bake to a rich brown. Make a small hole in the middle of the top crust to let the steam escape, and prevent spoiling the edges. The leftover scraps of a turkey or roast chicken make fine pies, and are made just the same way.

CELERY SAUCE.

This can be made with the outside pieces of the celery and small pieces of the root and ends, which are of no use for the table, and is good with almost any boiled meat or fowl. Wash and scrape the celery, cut it into small pieces, cover it with water, and boil until tender. Add a dust of nutmeg, salt and pepper. Cream a large tablespoon of butter with a tablespoon of flour to a pint of sauce. Take the celery out, rub it through a sieve and return it to the water with the butter and a cup of rich cream. Let it boil and it is ready for the table.

SALSIFY CAKES.

Scrape the salsify and drop it into cold water for awhile; then boil until tender, and put through the potato masher; add to it equal parts of creamed Irish potatoes; beat well together, and to one quart of the mixture add a large spoon of butter, one raw egg, salt and pepper. Make it out into cakes as big as a biscuit and fry in hot lard.

TOMATO SAUCE.

With this we can make a very appetizing dish of a most untempting-looking cold roast of beef. Slice one large onion and put it on a hot pan, with a heaping tablespoon of butter and let it fry done, but not brown. To this add a half a can of tomatoes and let them cook until tender, then put them through a sieve. Return this to the pan and add a half-pint of soup stock, made of the bones of the cold roast, a teaspoon of black pepper, a teaspoon of

BERKSHIRES

WE HAVE THE BEST.

MINIBORYA FARM,

Box 901. RICHMOND, VA.

BERKSHIRE PIGS

Ready for January delivery, sired by my 18-months-old boar, CAPT. JACK 68623, who now weighs 680 lbs. in only fair breeding condition. The pigs are first-class in every respect and I will ship to responsible parties on approval. Am now booking orders for pigs March farrow by Lustre's Carlisle of Biltmore, 72057, recently purchased from Biltmore Farms.

WOODSIDE STOCK FARM,

Charlottesville, Va.

ACCOMAC HERD

Large ENGLISH BERKSHIRES.

A choice lot of young Boars and Gilts now ready to ship; 60 nice pigs for spring shipment; the best English and American families. All stock eligible to registry. Write for prices.

ALFRED P. WHITE, JR.,
Parksley, Va.

English Berkshire Pigs,

8 weeks old, \$5.00 each.

Barred Plymouth Rocks,

\$1.00 each.

Eggs in Season at \$1.00 for 15.

M. E. ANDREWS, Hurt, Va.

HOLLYBROOK FARM.

Berkshire Pigs

Are from first-class registered stock, Biltmore strain; have free range and plenty of running water, and are healthy, vigorous stock. Young pigs for sale. Write for prices.

HENRY W. WOOD,

Box 330.

RICHMOND, VA.

BERKSHIRE

Boars, bred by Biltmore Farms, for sale cheap. They are of the best blood, and are sure breeders. R. S. CAMERON & SON, Gloucester, Va.

BERKSHIRES

ANNEFIELD HERD

Represents the

Finest Blood Lines

In England or America.

Stock for sale at all times.

Correspondence Solicited.

Inspection Invited.

EDW. G. BUTLER, Annefield Farms,
Briggs, Clarke Co., Va.

THOROUGH-BRED....

**Berkshire Boars,
Dorset Buck Lambs,
Jersey Bull Calves.**

All stock in best of condition and
guaranteed as represented.

F. T. ENGLISH, Centreville, Md.

POLAND-CHINAS

For sale, 3 months old pigs not akin;
choice bred gilts 8 to 12 months old,
sired by a grandson of CHIEF TE-
CUMSEH 2d and CHIEF PERFEC-
TION 2nd & IDEAL SUNSHINE Boars.
I also offer choice B. P. ROCK COCK-
ERELS.

THOMAS R. SMITH,
Lincoln, Loudoun Co., Va.

ESSEX PIGS.



I am now offering
some splendid pigs,
not related, from re-
corded stock. You
cannot do better
than breed the Essex.

L. G. JONES, Bethania, N. C.

ESSEX SOWS.

Two fine ones, 8 mos. old, entitled to
registry; will SELL CHEAP as last we
will have. Registered **BERKSHIRE**
SHOATS cheap, and plenty of Berk-
shire pigs in the Spring.

DALKEITH STOCK FARM,

South Boston, Va.

Registered P. Chinas
Berkshire,
C. Whites. Fine large
strains. All ages, mated
not a 1n, 8 week, pigs.
Bred sows, Service boars
and Poultry. Write for prices and free circular.
P. F. HAMILTON, Cochranville, Chester Co., Pa.



Mention the SOUTHERN PLANTER in
writing.

celery seed, a dash of red pepper, salt
and a tablespoon of flour. Let it boil
up and it is ready. Serve with cold
sliced meat, or slice the meat and put
it into a pan with a small quantity of
nice drippings or butter. Let it get
hot, and after putting it on a large
dish pour the sauce over it. This
sauce is a delightful addition to broiled
steak, poured on just as you take it
from the fire.

BUCKWHEAT CAKES.

One quart of buckwheat flour, one
cup of corn meal, half a cup of yeast,
or half a yeast-cake soaked for two
hours before using; one teaspoon of
salt and one teaspoon of molasses;
enough water to make a stiff batter.
Beat in two eggs; set it to rise, and
in the morning stir in a teaspoon of
soda dissolved in a little warm water
and a large tablespoon of lard and but-
ter mixed. Fry on a very hot griddle,
with plenty of grease.

SYRUP (TO EAT WITH THE BUCKWHEAT
CAKES.)

One pound of maple sugar and five
pounds of white sugar in five quarts of
water. Boil till there is only a gallon.
If you cannot get the maple sugar, use
six pounds of brown sugar, and season
it with the yellow inside bark of a
hickory-nut tree. The imitation is
almost perfect. I sometimes dissolve
a half-box of gelatine in the syrup just
before I take it off the stove. This
makes it so much thicker, and is a
variety.

MERINGUE PUDDING.

One quart of stewed apples (the can-
ned ones do just as well as the fresh),
a cup and a half of sugar (more if the
apples are sour), the yolks of six eggs
beaten very light, the juice and grated
rind of one lemon, one cup of rich
milk, one dessertspoon of corn starch
dissolved in the milk. Beat all well to-
gether and bake in a deep pudding-
dish for forty minutes, then spread
over the top a meringue made of the
whites of the eggs beaten light with
six tablespoons of sugar and a tea-
spoon of vanilla. Put it back in the
oven and let it brown. Serve with
cream. This is good made with evapo-
rated apples or apricots.

HOME-MADE MUSTARD.

Four tablespoons of ground mus-
tard, one tablespoon of flour, one table-
spoon of sugar, one teaspoon of salt,
one teaspoon of black pepper, one tea-
spoon of celery seed. Mix these in-
gredients together and then rub them
into a paste, with a little cold vinegar,
and pour over it one cup of boiling
vinegar. Let it boil up, and it will
keep any length of time.

SWEET PICKLE MADE OF EVAPORATED
PEACHES.

In the springtime our pickle jars are
generally empty, or nearly so, and in
the country it is not so easy to fill
them at this season; so I think some
will be glad to know that the dried
fruit makes pickle almost, if not quite,
as good as the fresh. I like to use the



Products Are Good

English Berkshires.

Berkshires are the most profitable
pigs to raise, because of their great
size, early maturity and the fine
quality of the meat. Breeders who
desire to improve the quality of
their stock will be interested in our
new folder about the young Filston
Berkshires, the progeny of noted
English prize winners. Correspond-
ence solicited.

Filston Farm, Glencoe, Md.



O. I. C. PIGS

FROM REG. STOCK.

FOR SALE. PRICES RIGHT.

F. S. MICHIE, Charlottesville, Va.

Poland-Chinas and Chester Whites

AT FARMER'S PRICES.

S. M. WISECARVER, - - Rustburg, Va.

WHITE YORKSHIRE PIGS,

Entitled to registration, FOR SALE.

HENRY H. CLARKE, "Chantilly,"

Broad Street Road, Richmond, Va.

AURUS FOR SALE.

Black horse, foaled 1895, by Eolus (sire of
Eole, St. Saviour, Eon, Morello, Russell
Diablo, Eurus, Eolian, Elkwood, Knight of
Elferslie, etc.). Dam Sample by Imp. Rother-
hill (son of Lord Clifden); 2d dam Satilia by
Imp. Buckden (son of Lord Clifden); 3d dam
Matilda, by Imp. Sovereign (son of Emilius);
4th dam Ruby Mare, by Imp. Ruby (son of
Emilius); 5th dam Peytona, by Imp. Glen-
coe; and so on 18 crosses to a Royal Mare.

Aurus is a large, handsome horse 16 hands
high, weighs 1,250 pounds, with fine bone
and muscle, and a good disposition. Be-
lieved to be sound and a sure foal getter.
Sold for no fault. Peytona was, perhaps the
largest mare ever trained. She won the Pey-
ton stakes, four mile-heats, worth thirty
thousand dollars, four heats—16 miles. She
afterwards beat Fashion four mile heats, who
beat Boston the same distance. Apply to

R. J. HANCOCK & SON., Charlottesville, Va.

FOR SALE,--My Trotting-bred Stallion

GEORGE BURNS, foaled May 14, 1900. Ma-
hogany bay, star in face, left hind foot white,
of good style, easy to handle; will make good
breeder. Write for his breeding.

J. TABB JANNEY, Van Clevesville, W. Va.

REGISTERED
SHORTHORNS.

Our old, established herd of about forty good milking cows is headed by imported SIR WILFRED LAURIER, 144766 (a son of the great English champion Marengo); CEDRIC, 126088 (a grandson of William of Orange, of Marr Farm), and FRANTIS LAD, 210443 (a winner of second prize in senior bull calves at 1903 International Young stock for sale,

P. S. LEWIS & SON,
Point Pleasant, W. Va.

FOR SALE OR TRADE

- 1 Registered Shorthorn Bull, 5 years old, to prevent inbreeding.
- 1 Registered Shorthorn Bull, 6 months old.
- 50 bus. French White Artichokes, at 75 cents per bus.
- Standard bred Poland-China Pigs, 3 to 4 months old.

J. H. BOELTE & SONS, - News Ferry, Va

ELLERSLIE FARM

Thoroughbred Horses
AND SHORTHORN CATTLE,
Pure Southdown Sheep
and Berkshire Pigs.

FOR SALE. R. J. HANCOCK & SON,
CHARLOTTESVILLE, VA.

WM. T. THRASHER, Springwood, Virginia,

BREEDER OF PURE BRED

Short Horn Cattle and
Poland-China Hogs.

FOR SALE: 2 yearling bulls, good ones, ready for service; also some nice Fall Poland-China sheats of both sexes. Come or write.



COOK'S CREEK HERD
Scotch-Topped
Shorthorns

Herd Headed by Governor Tyler, 1585 48. Young Bulls for sale. Inspection and correspondence invited.

HEATWOLE & SUTER, Dale Enterprise, Va.

Angora = Goats.

In pairs to suit. Buck and Doe Kids at \$15 or \$20 per pair. Does in Kid, \$8 to \$10. Some extra REG. ANGUS Bull Calves, low down.

J. R. K. BELL, Pulaski City, Va.

ANGORA GOATS are handsome, hardy and profitable. For large circular address E. W. COLE & CO., Big Clifty, Ky.

evaporated fruit best, but the common sun-dried peaches will do.

Seven pounds of peaches, five pounds of sugar, between two and three quarts of vinegar. Powder coarsely mace, cloves and alspice, and add seven tea-spoons of this mixture and a few pieces of bruised ginger. Pour over the peaches and let them stand over night. Cook until tender, and as soon as cold it is ready for use.

QUEEN OF PUDDINGS.

One quart of milk heated and poured over the well-beaten yolks of four eggs, into which stir one cup of sugar and a heaping cup of finely crumbled bread (stale is best); season with nutmeg and let it get cold. Just before putting it into the pudding dishes, add a full cup of seeded raisins; bake about forty minutes, or until the pudding is well set; then take it out and spread a layer of some acid jam or jelly over it, and over this put the whites of the eggs beaten and sweetened with a half cup of sugar; flavor with lemon and set it back to brown. Eat cold with cream or hot with wine sauce.

CARAVEN.

ONE ASSET HAD BEEN OVER-LOOKED.

H. Gerald Chapin, editor of The American Lawyer, takes considerable delight in telling how he was once foiled by a woman whom he was examining as a witness in supplementary proceedings.

"I had been admitted to the bar but a short time, and was a fair specimen of the average theory-stuffed, practice-wanting, law-school graduate. How joyously were the commands of the managing clerk obeyed! Here was the looked-for opportunity to demonstrate my ability in the noble art of searchingly examining a recalcitrant witness. Of the two I fancy, however, that it was the lady who was the more self-possessed when the proceedings opened. She was a dressmaker, and had been sued by a dry-goods firm. The examination dragged its slow length along, revealing no assets, until finally came the *omnium gatherum* query asked as a finisher.

"Have you any property of any kind or nature, real or personal, or any right or interest in property which you have failed to mention?"

"Perhaps it was my tone she disliked. At all events, her eyes snapped. "Well, I've got what perhaps you wouldn't call an interest, but it's almost as good. It's an expectation. Must I answer?"

"If you please."

"Well, you see, it's this way. I've got two sisters, and both of 'em have married finely. Now, neither of 'em begins to be as good looking as I am."

"Well, I really don't see why I shouldn't have the same show."

"Needless to say, no receiver was appointed to administer this 'asset.'"—Success.



Products Are Good

Scotch Collies.

Among the famous sires now at Filston are Lord Tweedmouth, sire of Dorothy C. and many notable prize winners; Filston's Galopin, Filston's Hero and many others, representing the best collie blood ever brought to America.

These dogs are at stud, or puppies of this choice stock may be procured from time to time. Correspondence solicited.

Filston Farm, Glencoe, Md.



150 Jacks, Jennets and Mules.

Best assortment I ever owned. Can suit you exactly. Write for description and prices. Also will sell 2 Pereheron Stallions at close figures.

BAKER'S JACK FARM,
Lawrence, Ind.

Knight & Jetton,

Breeders of and Dealers in
Jacks, Jennets, Stallions.
Durham and Hereford
YEARLINGS.
Send stamp for Catalogue.
Murfreesboro, Tenn.



Jacks, Jennets and Stallions

FOR SALE. FINE JACKS A SPECIALTY. When writing state exactly what you want or come and see our stock.

W. E. KNIGHT & CO.,
Route 5. Nashville, Tenn.

MULES FOR SALE

One pair choice young Mules, coming 4 yrs. old; thoroughly broken. Address

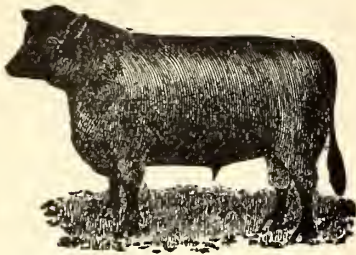
LOUIS DE LACROIX, Oxford, N. C.

— SALE OR EXCHANGE. —

1 Maltese and 1 Spanish Jack, sound and sure, for good sheep or heavy stallion. Young stock preferred. W. S. MOTT, Dixondale, Va.

A neat Binder for your back numbers can be had for 25 cents. Address our Business Office.

Angus Cattle For Sale Low.



1 Reg. Bull Calf 12 mos. old, very fine. 1 Reg. Bull calf 7 mos. old, very fine. Angus herd bull 6 mos. old, a very fine animal. Lot of $\frac{1}{2}$ grade bull calves. 1 15-16 grade bull calf. Several nice $\frac{1}{2}$ and $\frac{3}{4}$ grade heifers 1 year old. These grade calves look like thoroughbred Angus, and will please the most fastidious. 1 five year old Shorthorn cow with bull calf at foot, by our Reg. Angus Bull, a fine family milk cow; quality's perfect. A splendid family milk cow 4 years old. Will drop a calf in April next, by our Angus bull. A splendid location for a saw mill. Timber to last 3 years or longer one-half mile from the railroad.

W. M. WATKINS & SONS,
Saxe, Charlotte Co., Va.

ANGUS CATTLE,



THE WORLD'S
BEEF MARKET

"Top Notchers" for 15 years. Good Pedigree. Breeding and individual merit our aim. YOUNG STOCK FOR SALE.

JOHN T. and G. B.
MANLOVE, Milton
Indiana.

ANGUS BULL CALVES

Sired by the
Champion Bull BARON IDA.

These calves are choice individuals.

ENGLISH SETTER PUPS.

Sire and dam prize winners.

WARREN RICE, Winchester, Va.

MONTABELLO HERD

ABERDEEN-ANGUS CATTLE

FOR SALE—2 Registered Bulls, calved Dec. 17th, 1902, and Aug. 28th, 1903.

Berkshire Pigs,

(Biltmore Strain.)

farrowed May 1903. For terms, apply to

L. H. GRAY, Orange, Va.

ROSEDALE HERD

Aberdeen-Angus Cattle.

Choice bulls, 4 mos. to 4 yrs. old. Prices as low as good breeding will permit. Inspection of herd and correspondence invited.

ROSEDALE STOCK FARM, Jeffersonton, Va.

CULTIVATING AND WEEDING FIELD CROPS.

We believe the Keystone Adjustable Weeder, which is advertised in these columns, has a larger beneficial use on growing crops than many very good farmers believe. Its purpose is to destroy weeds which start quickly on the soil's surface, at their first showing, at the same time mellowing and cultivating the soil for the benefit of the crop. Many might fear that destroying the weeds would at the same time destroy the crop. This does not follow. Exactly the opposite is the truth. The crop is deeper rooted than the young weed, and whatever disturbance there is tends to its better "stooling out," resulting in many cases in an increase in product of from 25 per cent. to 40 per cent. This Keystone Weeder has the popular Hallock Fat Tooth, and is manufactured under license. An important feature about the tool is its adjustability. Primarily, it is intended for work in sowed crops, as grains and grasses. As such, it has a width of $7\frac{1}{2}$ feet, but it is only the work of a moment to narrow it down to 30 inches, when it becomes an unsurpassed weeder and cultivator for work between the rows of corn, beans, potatoes, etc. It is manufactured by the Keystone Farm Machine Company, of York, Pa., who will be glad to send descriptive matter and full information to any one writing for it.

SPRAYING PAYS.

Readers of Southern Planter are coming more and more every year to recognize the value of spraying, not only for fruits, but for vegetables, melons, tobacco and other crops. If one has the right solution, any sprayer is better than none at all, but when one considers that the cheapest lasts only a little time, and costs almost as much as the best sprayer, it will be seen that there is no economy in buying sprayers of doubtful quality. One of the most complete lines of sprayers for all purposes is made by Morrill & Morley, of Benton Harbor, Mich., who are advertising elsewhere in this issue. This firm was engaged in the actual growing of fruit before they embarked in the spraying business, so that their goods are eminently practical, and will do all that they claim and that any one will expect. We can recommend the firm and the line to our readers. If interested in this subject, as every farmer ought to be, write to-day for their catalogue, which will be gladly sent you if you mention having seen their ad. in this paper.

Mother—I hope that young man never kisses you by surprise?

Daughter—No, mamma; he only thinks he does.

Be sure you are right—then, instead of sitting down and thinking it over—go ahead!

REGISTERED IMMUNE HEREFORDS.

Sale of 50 head at AUBURN, ALABAMA, February 17, 1904.

Under the management and auspices of the Alabama State Experiment Station. This consignment is a pick of four of the best herds in Kentucky. Bulls and Females of ages to suit all. IMMUNE to Southern fever by INOCULATION.

For particulars and illustrated catalogues address GILTNER BROS., Eminence Ky., or Auburn, Ala.

We have a choice lot of cows, bulls and heifers for sale at our Kentucky Farms. Prices are reasonable. Write us before buying elsewhere.

V. P. I. Farm Bulletin

We are now offering some choice young Bulls of the following breeds:

Shorthorn, Hereford, Aberdeen-Angus.

Write at once for pedigrees and prices.

D. O. NOURSE, Prof. of Agr.
Blacksburg, Va.

Swift Creek Stock and Dairy Farm



Has for sale a large number of nice young registered A. J. C. C.

JERSEY BULLS AND HEIFERS.

None better bred in the South. Combining closely the most noted and up-to-date blood in America. Bulls 10 to 12 months old, \$25; Heifers, same age, \$35. POLAND CHINA PIGS, \$5 each. Send check and get what you want.

T. P. BRASWELL, Prop., Battleboro, N. C.

I OFFER

2 Reg. Ayrshire Bulls,

One 10 mos. old PRICE, \$40.00.

One coming 3 yrs. old..... PRICE, \$65.00.

Low considering Quality.

Registered and high grade HAMPSHIREDOWN SHEEP of best breeding. Rams, Ewes and Lambs for sale. Stock and Prices will suit.

J. D. THOMAS, Round Hill Va.
Meadow Brook Stock Farm.

FOR SALE.

3 Aberdeen-Angus Heifers,

Bred from Hero of Bunker Hill, 31462. All three good individuals.

J. TABB JANNEY, Van Clevessville, W. Va.



ANGUS & HOLSTEIN CATTLE.

Registered and grades, of all ages and sexes, and of champion blood for the beef and milk strains and at moderate prices. Also Nursery stock of all descriptions.

MYER & SON, Bridgeville, Delaware.

A neat Binder for your back numbers can be had for 25 cents. Address our Business Office.

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Some Exceptionally Rare Bargains to Quick Buyers.

My herd bull, bull calves and Dorset bucks. Registered stock.

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Good January 1903 Rams FOR SALE—cheap.

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DORSET SHEEP,

Beardless Spring Barley,

Choice Alfalfa Seed.

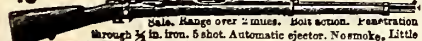
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Ayrshires, Berkshires and Oxford-Downs.

Ayrshire Calves of both sexes, Berkshire Pigs and Boar and 2 Oxford-Down Rams for sale.

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Enos H. Hess, Manager, Casanova, Va.

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Gibson Liquid Lice Killer kills all lice and mites on Fowls, Cattle, Hogs and Horses. Easily applied and guaranteed to kill the lice or money refunded. Gallon can \$1.00. Liberal terms to dealers and agents. Write to-day for prices and circulars.

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EMILY'S CHARGE.

A SERIAL TALE BY MARY WASHINGTON.

CHAPTER VIII.

In order to explain to our readers Dr. Gordon's abrupt departure, we will have to go back and give an account of some episodes in his early life. When in his teens, he had a boyish love affair with his cousin, Lucy Gordon. Their fathers were brothers and were neighbors, the families, of course, intimate, the estates contiguous, and the immemorial custom in Virginia was for cousins to marry. In short, everything seemed to pave the way to the match and point to its desirability. The engagement, formed in their early teens, ran on till they had reached a mature age, and would have been consummated ere now but for reverses that had befallen Ellis' father, of late years, whilst his uncle, who was a shrewder and more successful business-man, had become very prosperous, and thus there had arisen a disparity between fortunes of Lucy and Ellis which, at the outset, had been about equal. It was a matter both of pride and principle with Ellis not to take a bride—even a wealthy one—until he could support her; so it was understood between him and Lucy that they were not to be married till he could support her by his practice, independent of anything she might possess. Both of them were very well satisfied with this arrangement. They did not have that ardent affection for each other that made them feverishly impatient for the time of probation to be over, nor that deep and continual longing for each other's presence that makes separation a trial to those who love. They were fond of each other rather as brother and sister than as lovers. Their betrothal had been entered into when they were very young, and was brought about more by contact and by the furtherance of friends and relatives than by their own deliberate choice. The only perturbation that had ever ruffled the course of their wooing was produced by some conscientious scruples aroused in Lucy's mind about marrying a first cousin, while she was being educated in the convent in Georgetown, a school very popular for young girls in Virginia, even in Protestant families. Like most young girls who go there, Lucy fell very much under Roman Catholic influences—so much so as to make her waver not only in her allegiance to the Protestant Church, but to Ellis—in view of the strong opposition the Catholic Church offers to the marriage of first cousins; but when she returned home, old habit and the memories and associations of her early years re-asserted their sway, and she made no move to untie the bond between Ellis and herself.

Though far from being an impassioned lover, he had a tranquil affec-

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MORGAN G. BULKELEY, President.

The Leading Insurance Company in New England, and the Largest in the World Writing Life, Accident, Liability and Health Insurance.

Assets, Jan. 1, 1904....	\$68,155,179.01
Premium receipts in 1903	11,733,253.87
Interest receipts in 1903...	2,825,620.69
Total receipts in 1903...	14,558,874.56
Payments to Policy holders in 1903.....	6,562,153.05
Legal Reserve on Policies, and all claims...	60,287,077.10
Special Reserve in addition to Reserve above given	2,186,188.00
Life Insurance issued and revived in 1903.....	33,087,131.00
Life Insurance in force Jan. 1, 1904.....	225,765,843.00
Accident Insurance in force Jan. 1, 1904.....	208,617,238.00
Guarantee Fund in excess of Requirements by Company's Standard	5,681,913.91
Guarantee Fund in excess of Legal Requirements	7,857,944.55

Paid Policy Holders Since Organization,
\$138,946,137.01.**Great Gains in Business During 1903.**

Increase in Assets.....	\$4,661,633.28
Increase in Excess Guarantee Fund	181,412.86
Increase in Premium Income	1,508,992.94
Increase in Total Income	1,742,074.47
Increase in Life Insurance Issued	2,597,293.00
Increase in Life Insurance in Force.....	12,002,866.00
Increase in Accident Insurance in Force.....	9,067,034.00

W. H. HARDWICKE, General Agent Life Department. 7 N 10th St.

J. B. MOORE, Jr., General Agent Accident and Liability. 1103 E. Main St., RICHMOND, VA.

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tion for Lucy, and never felt their betrothal to be a fetter until he came to know Emily. When he first saw the latter, he felt strongly attracted toward her. She and her young sister seemed to form together such a lovely vision of peace, purity and sweet young womanhood. Later, when he met and talked with Emily at the dancing party, he felt so powerfully drawn toward her, so delighted and startled at hearing her express thoughts and sentiments that seemed like the voice of his inner heart, that he began to think it would be better for his honor and peace of mind to keep away from her; and, therefore, on calm reflection, he decided that it would be wiser for him not to call at the cottage, though he had requested permission to do so. When Alice was taken in, however, there could be no question as to the duty—nay, the necessity of his going there. He went, and the results of close attendance and intimacy at the cottage, we have already described. He struggled against his love for Emily as soon as he became clearly conscious of it. Hampered as he was by another tie, it occasioned him terrible inward conflicts. For days and weeks he had an inward tribunal, arraigning and judging himself, and trying to decide what was right. One day, glancing over Tennyson's "Elaine," his eyes fell on the lines:

"His honor, rooted in dishonor stood,
And faith unfaithful, kept him
falsely true."

"That would apply to me," he exclaimed, "if I were to go through the hollow form of making Lucy my wife. I would do a terrible wrong and injustice both to her and myself to marry her, feeling as I now do. I had better tell her the truth, even if it inflict some temporary pain and humiliation, rather than take a false step that would make us both unhappy for life."

The more he thought over the matter, the more he became convinced that this was the right course. He thought it best not to see Emily again while things were in this unsettled state. He had no idea whether she returned his feeling or not, and, of course, would make no effort, as long as he was bound even nominally to Lucy; hence his abrupt departure, without taking leave of Emily.

By a strange coincidence, he was summoned to go to Lucy almost simultaneously with his decision to take the journey. A telegram from Lucy arrived just as he was starting, asking him to come to her at once, as her father was very ill. Arrived at his destination, he found that his uncle, who had been in feeble health for some time, had been precipitated into a fatal attack of paralysis by sudden business failure, and Lucy, reduced to poverty and bereaved of her father, threw herself into Ellis' arms, sobbing out,



Dr. A. C. Daniels

DR. A. C. DANIELS



Can save you Money, save your Horse,
save your Mule or save your Cow.

Home Treatment for Horses and Cattle.

Sick and Lame Horses Made Well. Weak Cows Made Strong. Better Breeders and Milkers.

Book for the asking of your druggist or dealer, or send to

DR. A. C. DANIELS, 172 Milk St., BOSTON, MASS.

Mention the PLANTER.

THE - OAKS - STOCK - FARM.

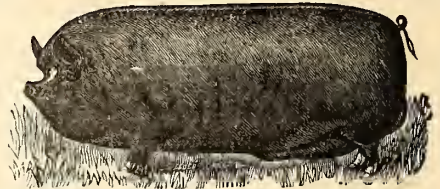
We breed and ship the best strains of

Large ENGLISH BERKSHIRES

Send us your order and get the best.

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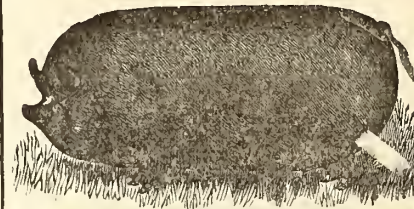
A Large Registered English Berkshire Boar,
1½ years old, extra fine specimen FOR SALE.
Write for price.



HILL TOP STOCK FARM.

Berkshire Hogs and Southdown Sheep

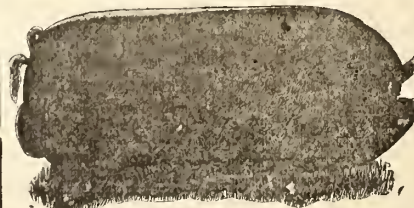
A SPECIALTY



S. Brown Allen, who succeeds H. A. S. Hamilton & Co. in the ownership and management of this celebrated Stock Farm, with increased facilities, will make a specialty of breeding Berkshire Hogs and Southdown Sheep, without regard to cost, from the purest and most royal strains of imported blood.

MY BERKSHIRE PIGS

For this Spring delivery will weigh 100 pounds at 12 weeks of age, and for INDIVIDUAL MERIT cannot be excelled in the United States. They will make show hogs against any and all competitors and are being engaged every day. The last of my Fall and winter pigs have been sold, and orders will only be taken for Spring delivery. S. BROWN ALLEN, Staunton, Virginia, (Successor to H. A. S. HAMILTON & Co.)



BERKSHIRES.

SEE WHAT MY CUSTOMERS SAY:

B. P. Van Horn, Toyalo, Texas, just a little ways from old Mexico, says: "I have already made cost of my pigs in outside service of boar."

This was just a few weeks after shipment.

W. W. Cornelius, of Blue Springs, Miss., bought four in December, writes: "Am delighted; can certainly give you a good name in Mississippi."

W. P. Hubert, Crawfordsville, Ga.: "Pigs arrived safely, and I am well pleased."

R. L. Kirkwood, Bennettsville, S. C., writes: "Delighted."

T. M. Arrasmith, Greensboro, N. C., says he got much better value than he expected.

R. Broughton, Oxford, N. C., is delighted.

P. H. Rudd, Mariner's Harbor, Staten Island, N. Y., has bought a whole herd from me, and is making money as a breeder now. These are just a few scattering letters received in last few days out of thousands that I have received. North Carolina alone can show at least a thousand of my pigs, and every purchaser happy. I am one of the oldest DIRECT importers in the United States, and own one of the finest and largest herds. If you want to try a novice in the business, I am not the man.

THOS. S. WHITE, Fassifern Stock Farm, Lexington, Va.

"You are all that is left me in the world."

It would be difficult to imagine a more cruel and difficult position than the one in which Ellis Gordon now found himself, nor a greater complication of conflicting duties. The situation in which he found Lucy seemed to deprive him of the power of acting in freedom and of taking the step which he was convinced would save them both from life-long unhappiness. But when the orphan girl, the betrothed of his early years, threw herself into his arms, exclaiming, "You are all that is left me in the world," his fate seemed sealed. It was impossible to say now to this clinging, trusting, desolate young girl what he had intended saying, if he had found her, as he had expected, in the enjoyment of a father's love and protection and of abundant property.

For the first few days after his arrival all were taken up with performing the last sad offices for the departed, so Dr. Gordon did not realize as fully, as he did later, the cruel dilemma in which he was placed; but when the household had settled down into quiet again, he sank into a sort of gloomy apathy. He was no longer disturbed by perplexity, for his fate seemed sealed. He was so hedged in there was no alternative. He could not release himself from Lucy in her affliction and poverty. One thing was clear, however. If he was to marry her, he must never again look on Emily; so he set about making arrangements to go to a new place. He had a restless longing to go off somewhere to a great distance and be alone. He thought he might grow calmer, after awhile, when away from agitating influences, and might become better prepared to extend to Lucy that brotherly kindness and protection which were all it was in his power to give. He felt the necessity of quickly getting to work, lest he should stagnate in his unhappiness. Listless and moody, he felt that the spring of hope and joy had gone out of him; still he felt eager to resume his work, partly from the restlessness of unhappiness and partly from his native energy and love of his profession, which could not be quenched by any personal pain or disappointment.

Lucy was dimly conscious that something was wrong, but she was too much grieved by her father's death to notice this as much as she would have done under ordinary circumstances. Besides, as Ellis had never been an ardent or demonstrative lover, it did not seem strange he should not be so now. He was, however, always considerate of her, gentle and gravely kind; and, more than this, it was impossible for her to be.

He wrote to a friend, who had gone a few years before to the West, asking if there was any opening for him at the place where his friend had settled.

Selling Out at Almost Butchers' Prices

50 HEAD OF

POLAND-CHINAS

of the best strain, out of son of PROUD PERFECTION, who sold at \$7,000.00.

Boars, ready for service - \$8.00.

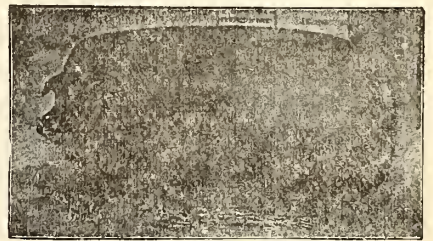
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Greatest bargain ever offered, worth three times the price asked. Entire herd to be sold immediately—none reserved. Owner compelled to dispose of herd owing to other business interests elsewhere. Will sell single animals, or in lots to suit purchaser. Send money order or draft with order. Orders will be filled in the order in which they are received.

Address **BULLFIELD FARMS, Doswell, Va.**

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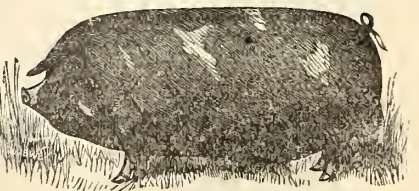
I have a limited number of pigs by my fine boars Gray's Big Chief, 57077; and Victor G, 57075, and can furnish pairs not akin or related to those previously purchased. Young boars and sows of all ages. Send to headquarters and get the best from the oldest and largest herd of Poland-Chinas in this State at one-half Western prices. Address **J. B. GRAY, Fredericksburg, Va.**



Registered POLAND-CHINAS.

Pigs bred from some of the best strains in America. **The Kind That Grow Large.** Fine individuals.

Black Minorcas & B. P. Rock Chickens. Prices reasonable. Write for further particulars. **W. M. JONES Crofton, Va.**



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Receiving a fairly encouraging reply, he hastened to resign his former position and start for the West. When he left Lucy, it was with the understanding that they were to be married a year hence, and meantime she was to remain in charge of a widowed aunt in Georgetown—a relative to whom Lucy was much attached.

FERTILIZER CHEMICALS.

The prices quoted below are those at which the goods can be purchased in lots of one ton and over, in original packages, delivered f. o. b. cars at New York city, and are for cash.

In all cases carload lots of any one of the materials can be purchased for less money, and, if possible, farmers should combine and order in not less than carload lots.

AMMONIATES.

	Per ton.
<i>Nitrate of Soda</i> —Packed in bags weighing about 200 lbs., and containing 15 to 16 per cent. nitrogen	\$45 00
<i>Dried Blood</i> —Packed in bags weighing about 200 lbs. and analyzing about 10 per cent. nitrogen	40 00
<i>Tankage</i> —Containing about 7 to 8 per cent. nitrogen and 20 to 25 per cent. phosphoric acid.	35 00
<i>Sulphate of Ammonia</i> —Containing about 20 per cent. nitrogen.	65 00

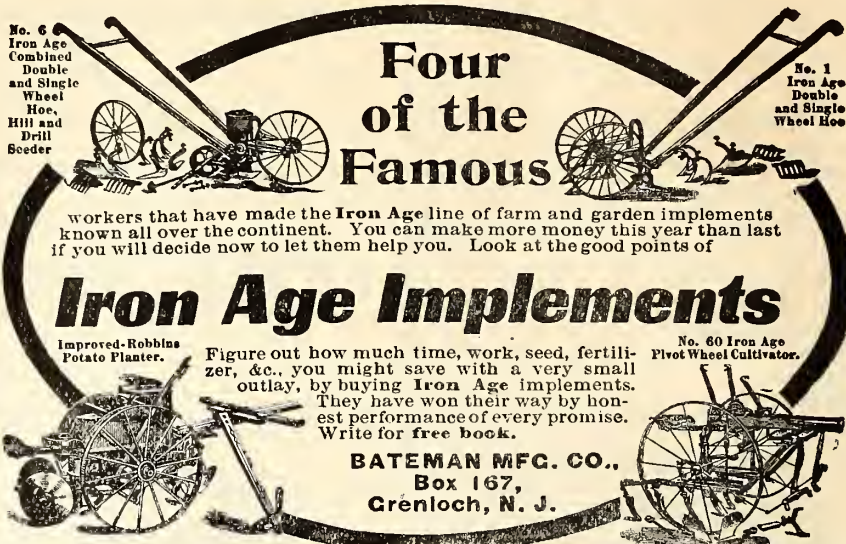
POTASHES.

<i>Nitrate of Potash</i> —This material contains both potash and nitrogen in a highly concentrated form, analyzing 45 to 46 per cent. actual potash and 13 to 14 per cent. nitrogen	70 00
<i>Muriate of Potash</i> —Containing about 50 per cent. of actual potash, packed in 224 lb. bags	41 00
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<i>Peruvian Guano</i> —A natural manure, free from all acid treatment, and containing about 4 per cent. ammonia, 4 per cent. actual potash, and 23 per cent. total phosphoric acid, in 200 lb. bags	30 00
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<i>Bone Meal</i> —Containing about 3 per cent. nitrogen and 50 per cent. bone phosphate of lime.	25 00

There was a young heiress called Rooker,
And the lawyer named Luke tried to "hook" her;
But the heiress was shrewd,
Though her question was rude—
"Do you look at my looks, Luke, or lucre?"



Four of the Famous Iron Age Implements

workers that have made the **Iron Age** line of farm and garden implements known all over the continent. You can make more money this year than last if you will decide now to let them help you. Look at the good points of

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48 pigs from four litters, ready for December delivery—our Fall prices always the lowest.

INDIAN GAMES, the fashionable table fowl.

WHITE LEGHORNS, the greatest layers.

WHITE WYANDOTTES, the best all round fowl. Also

JERSEY BULLS and HEIFERS from cows with recorded butter tests of 18 to 24 lbs. in 7 days.

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65 Selected Brood Sows all guaranteed safe in pig to the greatest English and American boars.

5 Selected Boars, including champion boar, English Royal.

All either prize winners themselves or bred by prize winners.

This offering has been selected without reserve; without limit as to price, and is from the herds of the leading English breeders, such as Edney Hayter, R. W. Hudson, His Royal Highness, Prince Christian, and C. C. Smith, Philo L. Mills, J. A. Fricker, etc., and will be sold absolutely without any reserve price, if only one bid is made.

INDIVIDUAL MERIT. Visiting breeders who have recently inspected the offering unite in the verdict that no such collection of Berkshire Brood sows has ever been gathered together at any one place, or can be found in any other breeding establishment. They have even more size and uniformity of type than our last importation, good as that was, and in addition the greatest possible care has been taken to exclude all that did not indicate the best of constitution and feet; early maturity, extra finish and style combined with good heads, backs and hams. In short, they are the kind that cannot be found every day, and that we confidently expect will be approved of in the sale ring by the expert judge and will well repay both our efforts and the investment of time and money for the breeder to secure.

BLOOD LINES. Only the best of the tested reproducing English families are represented. These we have proven here for many years, and have given great results in the hands of other American breeders, and they are families which are producing the winners for many years at the leading English Shows. They are not the results of any experiments which we do not wish to try here or induce our patrons to try. Among the prominent families are those of The Huntress, Loyal Berks, Handley Cross, First Catch F., through Manor Favorite, Swansea, Blenheim, Rubicel, through Queen of Hearts, First Rank F., Highclere Topper and His Majesty. Ten great boars, which include the Champion at the English Royal, also the Champion at the Pan-American, and many other prize winners will be used on these sows, selected to nick to produce the best litters that many years' experience with these blood lines indicate.

CATALOGUE will be ready for mailing early in January. **MAIL BIDS** will be carefully and conscientiously treated by the Farms; or, if selection of an outside expert is wished, write Mr. Geo. W. Jessup, Rockville, Ind., who has kindly consented to act in this capacity.

SPECIAL RAILROAD RATES of one and one-third fares for the round trip can be secured from all points north of the Ohio and west of the Mississippi rivers by calling for Winter Tourist's Tickets to Asheville (1½ miles from the Farms). For further particulars address

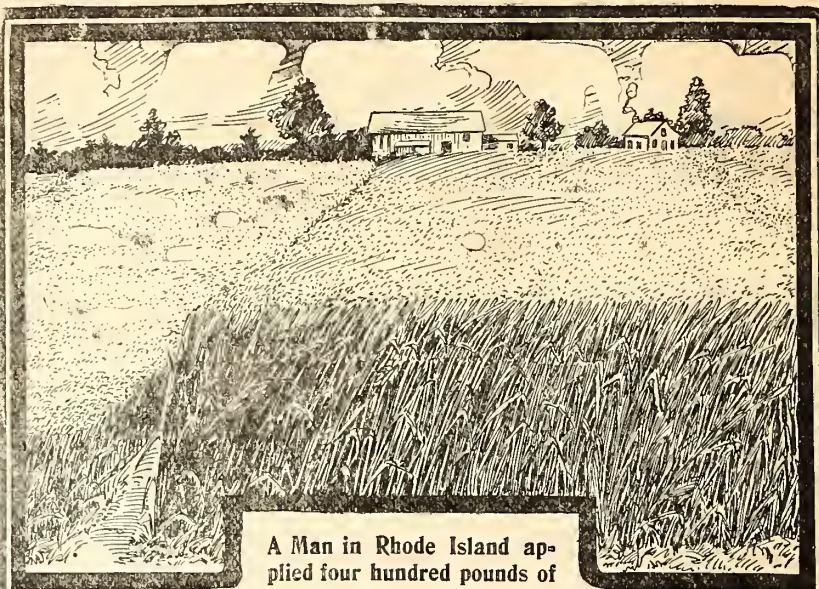
BILTMORE FARMS, Biltmore, N. C.

THE BILTMORE SALE.

The 7,000 edition of the Biltmore Farms Catalogue of their fourth annual sale of large imported English Berkshire brood sows (all guaranteed safe in pig to one of their great boars) has been mailed out to all breeders, and a few reserved for those who will send a postal card for one.

The boars they have been bred to include Loyal Lee II., of Biltmore, a Loyal Berks-Longfellow boar, champion of America and gold medal boar of Pan-American; Danesfield Warrior, first and champion English Royal Show, 1902, and many others, and he is included in the sale; The Duke (imported), a Highclere-Parish-Council-Minting boar; Danesfield Hunter and Huntsman, both imported and in the sale, and of the richest breeding, being by a son of Manor Favorite and out of Danesfield Huntress (in the sale also), a winner of first and reserve for the champion at the Royal at Somerset and Tunbridge Wells; first and champion at Central Buckinghamshire, and second at Peterborough and Oxford. She is also the dam of Danesfield Governess and Mistress, two great winners; and, finally, she is out of the Huntress, the head of the remarkable family. To mention the choice sows in the offering, that for quality and breeding cannot be duplicated as an offering of exceptional high quality, would be to name nearly every one. They are by boars that are household words with the best English breeder, Faithful Commons, that best son of Loyal Berks Commons, a Highclere boar, also in the sale; a Danesfield Loyal, by Loyal Berks, and out of a Sallie Sow, Lisle Grand Duke, the most prominent winner of 1903, beating the Royal Champion (who sold for \$550.00) at the Royal Comtes; and, finally, the Highclere Topper boar, Handley Cross, sire of the winning pen of sows at the Royal, 1903, are a few.

We must not close without calling attention to these, also included in the sale: Their dam is equally well bred, being Stratton Polly B; making the three sows Windsor Royal Winner I., II., and III., full sister to the sow winning first and reserve for the champion at the Royal of 1903. Another full page could be filled easily with the winnings of other full sisters and near relations. Purchasers at former sales who remember the individuality of the produce of Queen of Hearts, Rubicel Sow, will mark with interest that four of her daughters, by Lisle Grand Duke are included in the offering. They are showing great development, and many tempting offers at private sale have been refused them, and a great future is assured for them in the right hands, either as show animals or foundation stock, for, in common with all the offering, they are from tried and producing strains.



A Man in Rhode Island applied four hundred pounds of

Nitrate of Soda

(The Standard Ammoniate)

to an acre of Timothy. From this acre he made 4,800 pounds barn-cured hay more than from an acre next to it, which had no nitrate. *That pays.*

This illustration is from a photograph of the two fields.

I want a farmer in every county in the United States to make a similar trial on a measured plot of meadow. I will furnish the Nitrate of Soda

ABSOLUTELY FREE

if the farmer will use it as I direct and report actual results of the trial to me.

My object is simply to collect and publish information about the value of Nitrate of Soda on hay production in every locality.

Send name and complete address on Post Card for instructions, conditions and Bulletins on Grass and other Crops.

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BERKSHIRE PIGS

From the herd where they grow to 200 pounds at 6 months. Trio, \$25.

A few JERSEY BULL CALVES from cows making 360 to 400 lbs. butter per year. If you wish to improve your herds, better buy your stock here.

Forest Home Farm,
Purcellville, - - Virginia.



IT PAYS TO DEHORN.

The best dehorner, the most humane and easiest to use is the **Keystone Dehorning Knife**. Cuts on four sides at once, without crushing or bruising. Highest award at world's fair. Orders with each filled from Chicago if desired. Send for circulars. M. T. PHILLIPS, Box 45, POMEROY, PA.

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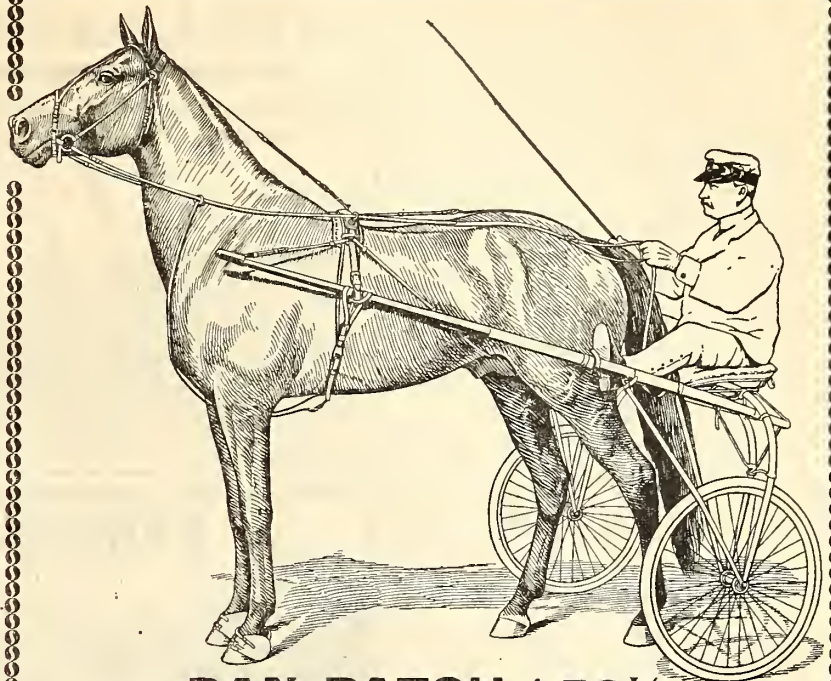
- U. S. Department of Agriculture, Washington, D. C. Annual Reports Department of Agriculture 1903. Report of the Secretary. Departmental. Ask your Senator or Congressman to send you a copy of this report. It is full of interesting information.
- Bureau of Soils. Field Operations 1902. Fourth report with maps of sections investigated. The Albemarle area in Virginia and the Hickory and Mount Mitchell areas in North Carolina are included in this report.
- Report No. 75 Indian Corn in Argentina—Production and export.
- Office of Experiment Stations. Experiment Station Record, Vol. XV, No. 5.
- Bureau of Statistics. Wages of farm labor in the U. S. 1866-1902. Farmers' Bulletin No. 183. Meat on the Farm. Butchering, Curing, Keeping.
- Farmers' Bulletin No. 184. Marketing Live Stock.
- Crop Reporter. December, 1903. Supplement and January, 1904.
- Columbus Horticultural Society, Columbus, O. Journal of the Society, December, 1903.
- Virginia Experiment Station, Blacksburg, Va., Bulletin 141. Orchard Studies XIV. The Lime Sulphur Wash.
- Virginia Weather Service, Richmond, Va. Report for December.
- Impl. Department Agriculture for the West Indies, Barbadoes, W. I. Agricultural News, January 2, 1903.

PAMPHLETS, BOOKS, ETC.

- Proceedings of the 27th Annual Meeting of the Georgia State Horticultural Society, August, 1903. Hugh N. Starnes, Secretary, Experiment, Ga.
- American Breeders' Association. Proceedings of first annual meeting St. Louis, Mo., December 20, 1903. This is a new organization of animal and plant breeders of which the Hon. James Wilson, Secretary of Agriculture, is president and W. M. Hays, of St. Anthony Park, Minn., is Secretary of the Council. The object of the Association is stated by the constitution to be "To study the laws of breeding and to promote the improvement of plants and animals by the development of expert methods of breeding."
- Union Stock Yard and Transit Company, of Chicago, 38th annual Live Stock Report for 1903.
- An Unappreciated Source of Typhoid Infection. By P. B. Barringer, M. D., of Charlottesville, Va.

CATALOGUES.

- The Bateman Manufacturing Company, Grenloch, N. J., makers of the celebrated Iron Age Farm and

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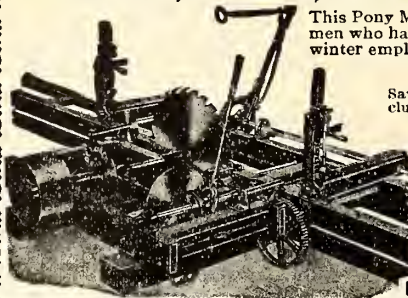
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GOLDEN PETER, 57426, A. J. C. C.

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It has not hitherto been possible to secure heifer calves of Filston breeding, as it has been the policy of the management to reserve all heifers for the home herd. It has now been decided to spare a limited number from each year's increase. As this number is small, possible purchasers should inquire at once as to breeding, prices, etc. Address

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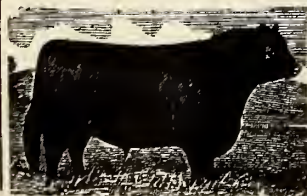
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MAGAZINES.

In the February number The Century makes a new experiment in color printing, giving two examples of copies by the late J. Wells Champney of famous pastels of the French school,—one Madame Le Brun's portrait of herself and daughter, the other Nattier's portrait of the Princess Louise. Two other color pictures are by Maxfield Parrish of "Roman Villas" in the group of articles by Edith Wharton now running in The Century. One of the subjects is the famous Villa Medici, with the dome of St. Peter's in the distance.

What may be called the "battle of the naturalists" is renewed by a paper, the first of a group, by John Burroughs on "Current Misconceptions in Natural History," which includes an unpublished letter on the subject by President Roosevelt. Ernest Thompson Seton continues his short sketches under the name of "Fable and Wood-myth" John La Farge contributes a paper with his own illustrations entitled "A Fiji Festival" which includes the Story of the War of the Fish Hook as he heard it related during his visit to the Fiji Islands. There is a suggestive article of practical use by Dr. Roger S. Tracy on "How to Live Long," a narrative "In the Alps on a Motor-Bicycle," by Joseph Pennell, with pictures by the author, a paper on "Bric-a-brac Auctions in New York," by Albert Bigelow Paine, illustrated by Orson Lowell.

The fiction of the number includes the fourth part of Mrs. Goodwin's "Four Roads to Paradise," the second part of Mr. Jack London's novel, "The Sea-Wolf," in which the hero shows something of the strenuous life of an Alaskan sealer, and other shorter stories: "The Suicide: A Comedy" by Anne Douglas Sedgwick, author of "The Confounding of Camelia," etc.; "Mrs. M'Lerie's Stuffed Birds" by J. J. Bell, author of "Wee MacGregoor"; "A Victim of Cleanliness" by George Schock; "The Absent Guest" by Roy Rolfe Gilson, these being illustrated respectively by Metcalf, Williams, Steele and Miss Stilwell. Editorial articles deal with "Tolerance in the South," "A Hero, and Certain Heroines," (Dr. Howe, Laura Bridgman, and Hellen Keller), "We Americans and Other Animals," apropos of the interest in natural history, and "International Arbitration," which is pronounced "better than battleships."

The February St. Nicholas is rich in pictures of quaint little men and women of long ago, two articles, "The Baby's Cap" and "The Story of the Glove," as well as the timely story of "A Pointed Valentine," offering opportunity for some unusual illustrations. N. Hudson Moore's "The Baby's Cap" goes as far back as 215 B. C. to the dress of women and children, and the funny laws governing it, and has pictures of a Dutch baby and its nurse, from a portrait by Franz Hals; of a

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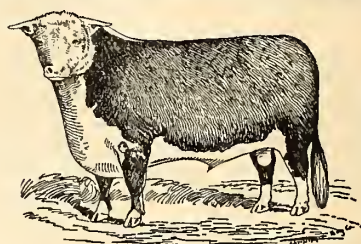
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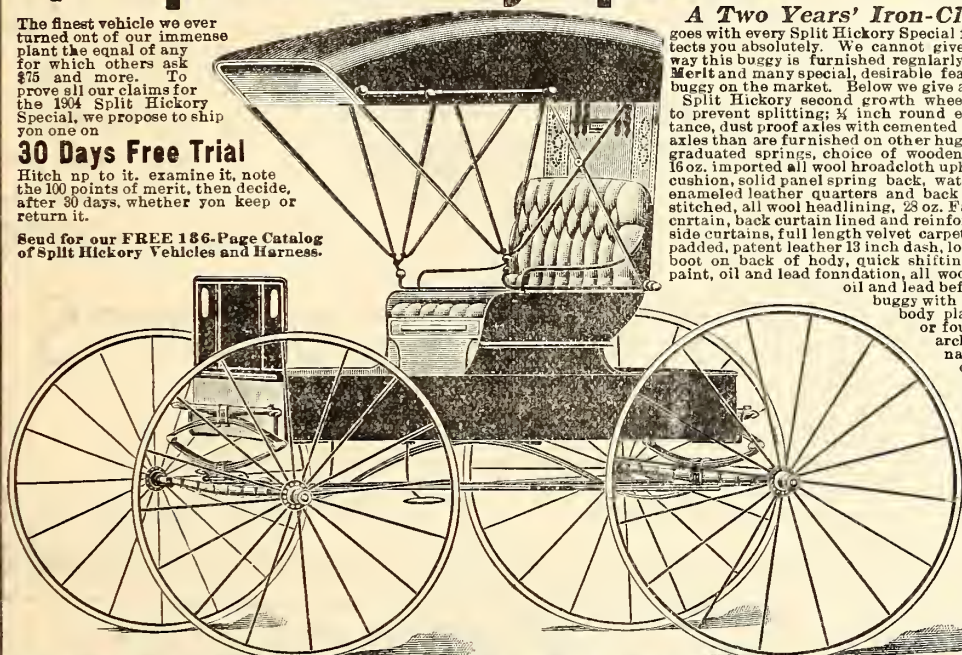
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child with its parrot, from a portrait by Mierevelt: of the little son and daughter of James II. of England, the original painting by Largilliere being in the National Portrait Gallery, London, and of Charles and Marie-Ade-laide of France, by Drouais. Mary Dawson's "The Story of the Glove" is full of romance for the girls and of adventure for the boys; and it, too, is attractively illustrated, "His First Gloves" showing a mite of royalty proudly putting on his odd hand-gear. V. K. Frye's "A Pointed Valentine" is a pretty story of life in our colonies early in the last century, and shows pictures of the little Puritan maidens.

Temple Bailey's "The Judge and the Cur" is a charming story of two dogs, a boy, and a judge. Very interesting, but of quite another tone, is P. W. Humphreys' "The Animal Ship," which tells of Jefferson Davis Cleve-land McKinley O'Toole and his skill with the fierce exiles of the forest. The pictures will please all young readers. There is a story also of "Alligator Hunting," written by Frank R. Stockton. B. L. Farjeon's "A Comedy in Wax" grows in thrills. George Huntington's "Jack Longshort" is a tale of a tall boy who shrunk into a pigmy. There are two anecdotes of General

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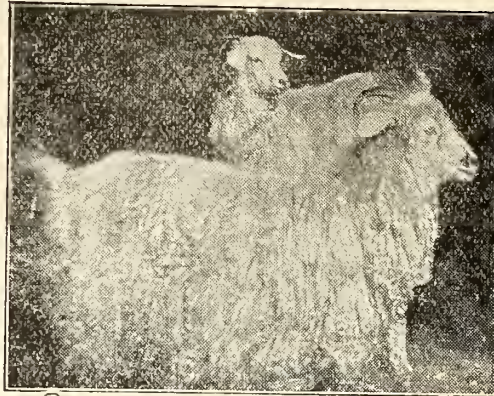
Washington, with two interesting pictures of the Father of His Country. The second installment of H. Irving Hancock's "Japanese Athletics for Boys" will delight the lads; and Katharine Louise Smith tells of "Our Northern Neighbors' Winter Sports." Clara Marie Platt's "After You Were Asleep" will please younger readers; and Boris Glavis's "Simple Science for Simple Simons" will furnish entertainment for an evening or a rainy Saturday.

Aima Martin Esterbrook's novel in the February number of Lippincott's Magazine more than confirms the belief in her ability to write a good long story. Short fiction from her pen has appeared in many magazines and won much deserved commendation. "Cousin Patricia," her present novel, is a tale of modern life. It entertains, preeminently, from beginning to end. Invention is clever throughout, and the climax shows a blending of strength and charm in the writing which is highly satisfying.

Arthur Symons' name is arrestive in the list of short stories. His contribution, called "Peter Waydelin's Experiment," shines with the human element as portrayed through a man who loved art "for art's sake."

The author of "That Mainwaring Affair," A. Maynard Barbour, writes a tale of love and a gold-mine entitled "A Controlling Interest." Francis Howard Williams is the author of a lovely idyl of a golden wedding called "A Little Child Shall Lead Them." "Yvonne of the Folies Bergere," by Prince Vladimir Vaniatsky, tells of a model husband whose sons make a discovery about their father—by no means to his credit—which they are quick to use to their own advantage. An unusual story, called "The Fatal Chamber," is by Clinton Dangerfield.

A country-bred girl with a love for beauty decorates her sanctum in accordance with her advanced views. She has three suitors, and as each one puts the question she leads him to this room. Two of them fall down lamentably and the one who stands her test is the one she supposed would flee from a girl who loved nymphs. Ella Middleton Tybout excels in dark sketches, but not to the exclusion of other veins in literature. "The Voice of the Harp" proves this. Temptation comes to a pretty "Little Sister of the Poor" to taste "the fleshpots of Egypt," and the way looks easy and pleasant. In the lovely harp Intermezzo of Cavalleria the little maid hears the voice of conscience before taking the irrevocable step. "Dear-



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... EDGEWOOD STOCK FARM ...

DORSET SHEEP.

Breeding DORSETS our business for 12 years. We can now offer Dorsets of high quality. Our ewes lamb in the fall. We have fall lambs now ready. Last season these lambs weighed 135 pounds in June. Allow us to insist that you buy only GOOD SHEEP when you buy Dorsets. Dorset sheep have a special place in Virginia. No other breed can take their place in the early lamb business. Write us for facts to prove this. We ship our sheep on approval.

J. D. ARBUCKLE, Greenbrier County.

H. B. ARBUCKLE, Maxwelton, W. Va.

... REGISTERED ...

POLAND-CHINA

Pigs from 4 to 6 months old. Boars ready for service, and young sows with pigs. Tamworth pigs 8 wks. old \$5. Prices Reasonable. Apply to

J. C. GRAVES, Barboursville, Va.

THE OAKS

OFFERS FOR SALE AT LOW PRICES

2 SHORTHORN BULLS,

Rising 1 yr. old; a solid red with white points and a rich red roan. Eligible to registry. Also a pair of MORGAN COLTS, 13 hands, 2 inches high.

B. B. BUCHANAN, Bedford City, Va.

DON'T BUY GASOLINE ENGINES

UNTIL YOU HAVE INVESTIGATED
"THE MASTER WORKMAN"

A two-cylinder gasoline engine; superior to all one-cylinder engines. Costs less to buy and less to run. Quicker and easier started. Has a wider sphere of usefulness. Has no vibration; can be mounted on any light wagon as a portable. Weighs less than half of one-cylinder engines. Give size of engine required. Sizes 1½, 2, 2½, 4, 6, 8, 10 and 15 horse power. Mention this paper. Send for catalogue. THE TEMPLE PUMP CO., Meagher and 15th Sts., CHICAGO.

est," by Harriet Boyer, is a well-told story of young love which stands the strain of time, and foreign travel, and disguise. Elliott Flower can be very funny, and in "The Man Who Never Lived" he surpasses himself in amusing conceit.

The February Review of Reviews is another notable triumph in monthly journalism. Almost every topic treated in this number is directly related to the news of the month. The far Eastern crisis and its bearings on American trade interests are editorially discussed in the department devoted to "The Progress of the World;" "Korea as the Prize of War" is the subject of an illustrated article of great value by the Hon. J. Sloat Fassett; "The Railways of China" are described by Dr. Arthur J. Brown; Governor Taft's administration in the Philippines, just closed, is reviewed by Frederick W. Nash; Entomologist Howard, of the United States Department of Agriculture, writes on the Mexican cotton-boll weevil, which recently caused an extra session of the Louisiana Legislature, as well as a special appropriation of \$250,000 by Congress; Mr. W. T. Stead sketches the personalities of the three commissioners who have been intrusted by the government with the practical reconstruction of the British army system; Mr. John S. Wise contributes sympathetic character sketches of the two great Confederate chieftains who died early in January,—Generals Gordon and Longstreet; the recent New Orleans meetings of the American Historical, Economic and Political Science Associations are described; the Panama situation and Wall Street's relation to Presidential politics are treated by the editor; and in the Review's series of illustrated papers on American industrial development Mr. Philip Eastman contributes an interesting account of "Windmill Irrigation in Kansas." Many other timely topics are covered by the cartoon department and by the "Leading Articles of the Month," "Periodicals Reviewed," "New Books," etc.

T. W. WOOD & SONS CATALOGUE.

We are in receipt of the seed and plant catalogue of T. W. Wood & Sons, of Richmond, Va. This is a greatly enlarged and improved edition of the catalogue of this well known seed firm. It is replete with the fullest information on the growth and culture of every kind of farm and garden seeds and will be found a constant source of information on the production of all kinds of crops. In addition to seeds of all kinds the firm supplies plants of the staple crops grown for the market which plants are raised by Messrs. Wood & Sons on their farms and can therefore be relied on as true to name and variety. Send for the catalogue before ordering your seeds.

Made for the Man
Who Wants the
Best.



The Great Western
Manure Spreader

spreads all kinds
of manure, fresh,
well rotted, fine,
coarse, hard,
mixed, full
of straw,
full of corn
stalks,
etc.

Will also spread compost, lime, land plaster, salt, wood ashes, cotton seed and hulls, and in every case do it quicker, better and more evenly than it can be done by hand. Spreads as much manure in one day as twelve men can load and spread by hand and the job is much better when done. Spreads the largest load a team can haul in 2 to 4 minutes. It makes the same amount of manure go three times as far and at the same time produce better results.

REGULATED to spread much or little while in motion. Puts **ENDLESS APRON**—always ready to load. No turning it on thick on poor spots—3 to 2 1/2 loads per acre. **COMBINED HOOD AND END GATE** keeps manure away from beater while loading and acts as hood in spreading. Catches all flying sticks, stones, etc. Front wheels cut under, and machine can be turned in its own length. Made in two styles and four sizes. Capacity 20 to 70 bushels. It saves time, labor and money and will double the crops. Makes all manure so fine and spreads it so evenly that it is immediately available for plant food. **LARGE CATALOGUE** 10 by 13 inches, with 8 large cuts shows the spreader perfectly and describes it fully. Tells also how to apply manure to secure best results. **Mailed free.**

SMITH MANURE SPREADER CO., 16 & 18 S. CLINTON ST., CHICAGO, ILL.

Planet Jr. Companion Tools

No. 3. Planet Jr. Hill and Drill Seeder shown below on the right holds its position as the tool for perfect hand seeding. Converted in an instant from drill to hill planter and back again. Plants in hills 4, 6, 8, 12 or 24 inches apart. A convenient cut-off prevents seed waste in stopping, no hills missed in starting. A steel marker rod lines out rows 6 to 20 inches apart, and it opens the furrow, drops the seed, covers different depths, and rolls down. Operator drills or plants in hills all garden seeds with great accuracy, aided by an excellent graduated index at top of handle.

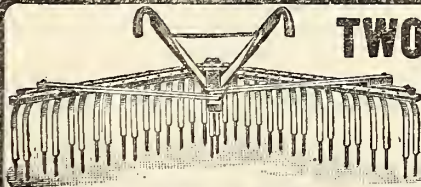
No. 12 Planet Jr. Double Wheel Hoe is the ideal companion tool for the above. The crop is never too small or too large for it to work perfectly. Its hoes, cultivator teeth and plows are quickly set to do almost every kind of work. Cultivates between or astride the rows, scuffles, kills weeds, furrows, ridges, etc. Wheels are adjustable for wide or narrow rows and for depth, and handles adjust to suit the operator. Leaf lifters avoid injury to low plants and permit close cultivation after plants are large.

Planet Jr. 1904 Catalogue shows forty different machines, including Seeders, Single and Double Wheel Hoes, Hand, One and Two Horse Cultivators, Horse Hoes, Beet Sugar Cultivators, etc. Over 100 illustrations, including 16 beautiful half tones of home and foreign farm and garden scenes. Mailed free to all.

S. L. ALLEN
& CO.,
Box 1107-X,
PHILADELPHIA
PA.



TWO CROP ESSENTIALS

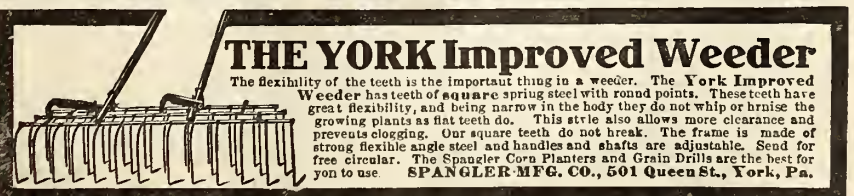


are cultivation and keeping down weeds. More important than deep cultivation is keeping the surface stirred, breaking the crust due to rains, and allowing the light, air, moisture and warmth to penetrate quickly to the roots of the growing plant. For doing just these things the ideal implement is the

KEYSTONE Adjustable Weeder and Shallow Cultivator

It kills the weeds at first showing, the top soil is pulverized and kept mellow, the plant roots are not disturbed and the moist soil is not brought up to dry in the sun. Adjustable in width. Narrows to 30 inches, widens to 7 1/2 feet. Strong and steady running. Furnished either with round teeth or with flat to suit different soils, as we are licensed to manufacture the famous Hallock flat tooth. Write today for catalog and booklet of field scenes showing half tone pictures from photographs of weeder in actual use. Both free for the asking.

KEYSTONE FARM MACHINE CO., 1554 N. Beaver St., York, Pa.



THE YORK Improved Weeder

The flexibility of the teeth is the important thing in a weeder. The York Improved Weeder has teeth of square spring steel with round points. These teeth have great flexibility, and being narrow in the body they do not whip or bruise the growing plants as flat teeth do. This style also allows more clearance and prevents clogging. Our square teeth do not break. The frame is made of strong flexible angle steel and handles and shafts are adjustable. Send for free circular. The Spangler Corn Planters and Grain Drills are the best for you to use. **SPANGLER MFG. CO., 501 Queen St., York, Pa.**

AETNA LIFE.

Its Remarkable Progress in 1903.

The condensed statement of the Aetna Life Insurance Company, of Hartford, Conn., which appears elsewhere to-day is a showing of growth and strength that must be especially gratifying to policy holders of this sterling company, coming as it does after a year in which financial institutions have had many unusual conditions to contend against.

In these days of insurance progress one naturally looks to the leading insurance company in New England, and to the largest company in the world issuing Life, Endowment, Accident, Health and Liability insurance for big results, but when one looks over the Aetna Life's record for 1903 the magnitude of the favorable results fairly astonishes him.

The Aetna Life, which is now over half a century old, has developed into one of the famous companies of the country, and is a notable monument of the business and financial ability of the president, Ex-Governor Morgan G. Bulkeley. When he took the helm twenty-five years ago it had in round numbers \$26,000,000 of assets, and was carrying about \$78,000,000 of life insurance. To-day it has over \$68,000,000 of assets, and is carrying \$226,000,000 of life insurance, to say nothing of over \$208,000,000 of accident insurance. A very large and important part of this splendid growth is due to the wonderful stride made in the accident and liability department of its business.

These are the important facts about what the Aetna Life has been doing. It is not only a matter simply of interest to its policy holders, or to its managers, but to every citizen of the country at large who seeks for the very best there is of insurance that really insures.

VERY POPULAR.

The "Osgood" Standard Scales, manufactured by Osgood Scale Co., 137 Central street, Binghamton, N. Y., are the subjects of an illustrated announcement to the trade, in this issue. They emphasize the fact that they want dealers and agents everywhere to handle the farm scale, the house adds a proposition to ship scales on a thirty-days' trial. The wagon scales made by this firm are becoming very popular and the sales are larger than was expected. A catalogue will be sent on application.

LEGAL LORE.

Just after the war an old darky came up to the Governor and said,—

"Marster, kin you make me jestice ob de peace?"

"Well, Uncle Ned, in a case of suicide what would you do?"

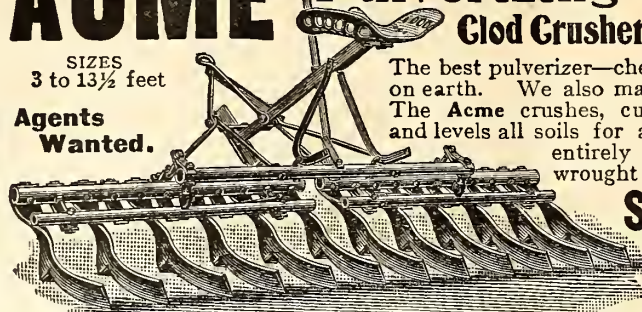
Uncle Ned thought deeply. "Marster, I'd make him pay de costs of de court and support de child."—December Lippincott's.

ACME Pulverizing Harrow

Clod Crusher and Leveler.

SIZES
3 to 13½ feet

Agents
Wanted.



The best pulverizer—cheapest Riding Harrow on earth. We also make walking ACMEs. The Acme crushes, cuts, pulverizes, turns and levels all soils for all purposes. Made entirely of cast steel and wrought iron—indestructible.

Sent on Trial

To be returned at my expense if not satisfactory. Catalogue and Booklet "An Ideal Harrow" by Henry Stewart, mailed free.

I deliver f.o.b. at New York, Chicago, Columbus, Louisville, Kansas City, Minneapolis, San Francisco, Portland, etc.
DUANE H. NASH, Sole Manufacturer, Millington, New Jersey.
Branch Houses: 110 Washington St., Chicago. 240 7th Ave. So., Minneapolis. 1316 W. 8th St., Kansas City.
PLEASE MENTION THIS PAPER.

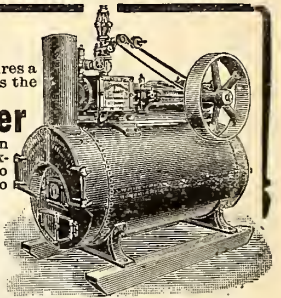
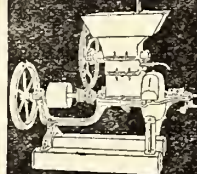
FOR THE PLANTER

the Ginners, the Farmers, the Millers, the Sawyers, or Anybody Else who desires a highly efficient power which will require little space, nothing quite equals the

Leffel Combined Engine and Boiler

It is entirely self-contained. Machinery can be belted to either side of engine shaft. Exceedingly safe. Free from escaping sparks. We make them from 6 up to 40 h. p. Being mounted on skids with engine on top, they are easy to handle and will stand the hardest kind of usage. Great favorites with saw mill owners. We also make other engines in great variety. Write at once for our special book on "Power Economy and Efficiency." It is sent free for the asking.

James Leffel & Co, Box 134 Springfield, O.

**GRINDS SNAPCORN**

Corn in the ear and all grains, any sort of chop mixture. For speedy and perfect work, saving feed and labor, the all-purpose grinding mill is the

Fine SCIENTIFIC Quick

Made in a variety of styles, including Power Mills, Sweep Mills, Mill and Power Combined. The line that meets feeders' wants and is right in price. Don't buy until you have seen our late catalogue. Mailed free. Write for it to-day.

THE FOOS MFG. CO., Springfield, Ohio.

RICHMOND · ATLANTA · NASHVILLE · NEW ORLEANS

SPRAY

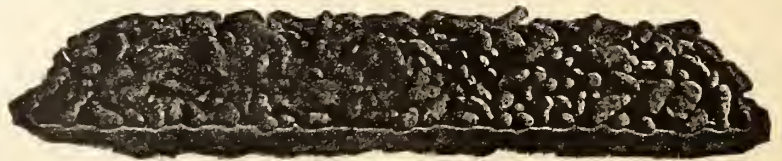
of all Kinds



UNSPRAYED.

PUMPS

in Stock.



SPRAYED.

The two illustrations above show the results of spraying potatoes at the Vermont Experiment Station. The sprayed vines yielded at the rate of 291 bushels per acre, while the unsprayed vines yielded at the rate of 99½ bushels per acre, a difference of 191½ bushels per acre. Then surely it pays to spray potatoes and what is true of this crop is also true of other crops, especially fruits. Sprayed fruit yields more and sells better. Water supply and plumbing systems installed.

SYDNOR PUMP & WELL CO., (INCORPORATED.)

Box 949.

RICHMOND, VIRGINIA.

Free: Spraying Calendar

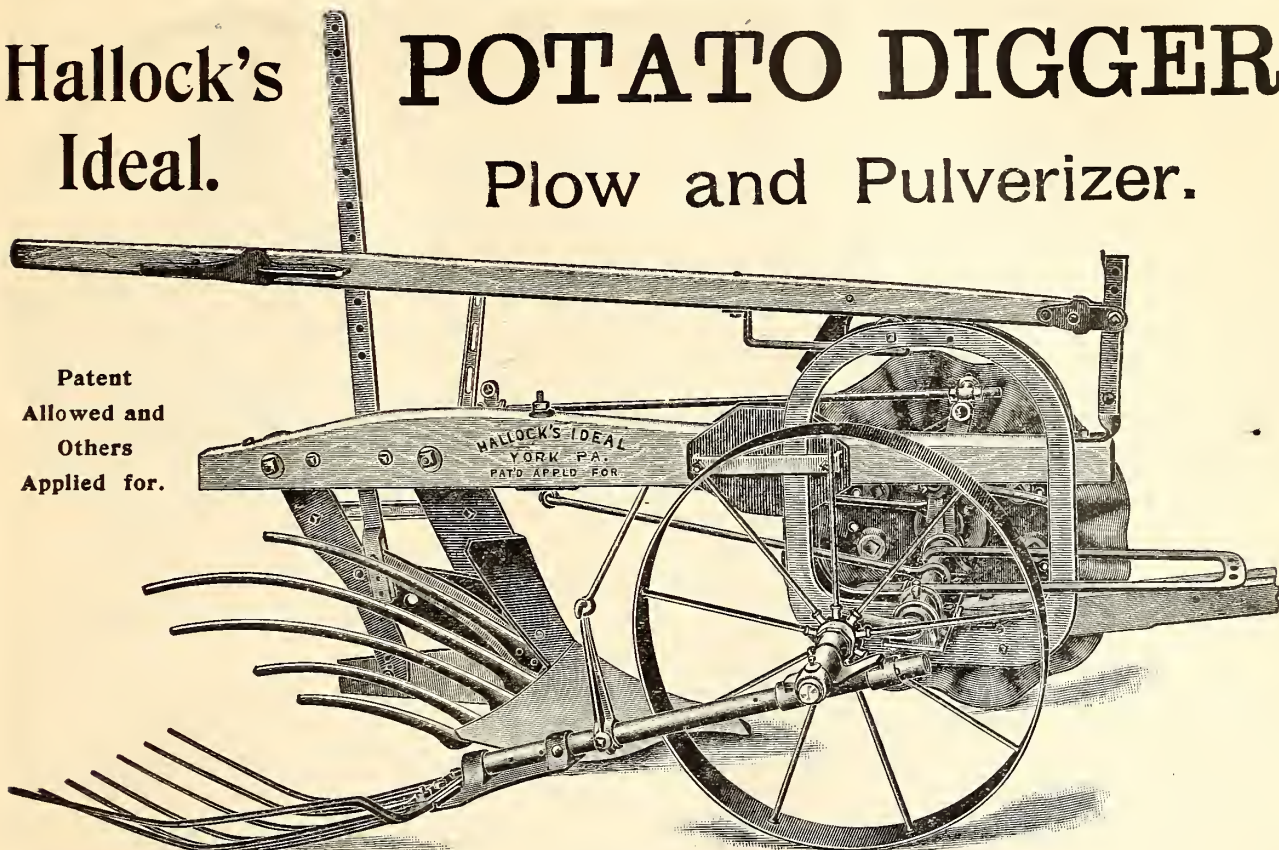
Write for Catalogue:

**Hallock's
Ideal.**

POTATO DIGGER

Plow and Pulverizer.

Patent
Allowed and
Others
Applied for.



Can We Send You this Splendid Machine on Trial?

We have spent 20 years in perfecting this Potato Digger and are satisfied that it is the only successful one on the market. We are willing for YOU to say whether it is what we claim for it. If you don't like it, the *Digger is ours*. The Southern Planter has examined its merits, and recommends its readers to send for it on trial. Will you do it? Let us mail you particulars. Write to-day. NOTICE THE AGITATOR on the wheel; remove it, and you will have the *best plow in the world*.

We want a good, active, responsible Energetic Agent in every section of the country to handle the "IDEAL." We will sell the first machine in each locality at a greatly reduced price. We protect our agents. The wise man will surely act quickly for he must see that territory on this machine will be eagerly sought for.

SPECIAL.

The Keystone Farm Machine Co., of York, Pa., have the exclusive right to manufacture our Hallock Flat Tooth Weeder for the Eastern and Southern territory. The Janesville Machine Co., of Janesville, Wis., have the same rights for the Western territory. Our friends will therefore have no difficulty in securing this well known and valuable machine. The patents have been fully sustained by five different Circuit Courts.

Write for Circulars and Testimonials from Those Who Have Used the Digger.

D. Y. HALLOCK & SONS, Box 813, YORK, PA.

If you will give us your name and address we will send you an elegant 32-page catalogue—

A Treatise on Potato and Corn Culture.

Good Buggies and How They Are Made

The above is the title of my new book which has just been published. It should be in the hands of every buggy user, as it not only treats fully on the construction of a buggy from the ground up, but teaches the reader how to tell a good buggy from a poor one. No matter whether you intend buying a new buggy now or later on, this book contains information that will be of great value to you, as it not only tells you how each and every part of the buggy is made, but illustrates by actual photographs, taken from our factory, the method of making and finishing the different parts. If you have never had the opportunity to go through a large carriage factory and see just how the work is done, this is a chance for you to do the next best thing; in fact, this really gives you a better opportunity to study the different methods of construction than you would have in a hurried trip through a factory. The regular price of the book is FIFTY CENTS, but for a limited time only it will be sent absolutely free of charge, postage prepaid, to any reader of this paper who will answer the questions in the coupon below. Address,

H. C. PHELPS, President and Treasurer,
The OHIO CARRIAGE MANUFACTURING COMPANY,
2010 Sixth Street, Cincinnati, Ohio.

Cut out this Coupon and Mail

Of whom did you buy your last buggy?

When will you buy a new one?

Have you one of our Catalogues?

If not, would you like to have one, with complete information of our plan of selling our vehicles, direct from factory to consumer, at wholesale

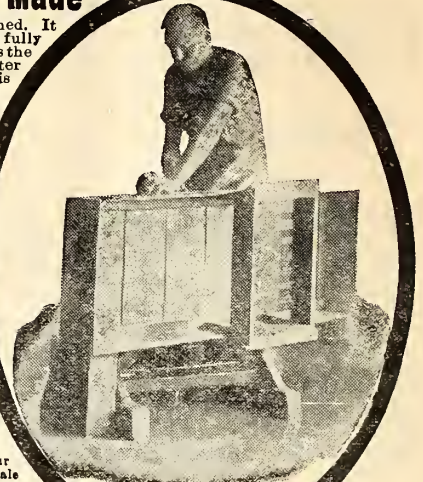
prices and on thirty days Free Trial?

Name.....

Town.....State.....Rural Route.....



Welding Axles.



Hand Rubbing of Body.

BALTIMORE'S SEED AND SUPPLY HOUSE.

The Seed House of Griffith & Turner Company, of Baltimore, who grow seeds in the North, South, East and West, each kind in the section of country where it develops best, is a good concern to consider when placing this spring's orders. Their plan of sectional growing of seeds brings universal satisfaction to their patrons. It requires but a statement of how they proceed to convince every planter that the plan is right. We suggest that our readers send for their catalogue and learn more of their plan of doing business. They also handle a full line of Farm, Garden, Dairy and Poultry Implements, Tools and Appliances. These several departments are each in charge of a competent head, and they are enabled to keep a large force busy throughout the year instead of for a short period at seed-selling time. Their advertisement will be found elsewhere. Consult it, and then write them for the catalogue at the particular address there given.

The kind of garden tool you use has about everything to do with the success of the crop, as well as the pleasure people get out of the calling. The line of Planet, Jr., tools is suited to every purpose. The users all tell the same story. One of them in Iowa, C. F. Sanderson, of Linn Junction, puts it this way: "I purchased a No. 4 Drill of Hamilton Brothers. It is the best tool of the kind I ever saw. It can be used in so many different ways. You can discover a new use for it every time you use it." Don't fail to note the Planet, Jr., advertisement elsewhere.

"Got any oysters?" asked the guest in a restaurant. "No, sah," replied the sable waiter; "ain't got no shell-fish, 'cept eggs, sah."

Established in 1866.

300 Acres Under Cultivation.

W. T. HOOD & CO., Old Dominion Nurseries, Richmond, Va.

OFFICE: CHAMBERLAYNE and RENNIE AVENUES.

Take Lakeside Car First and Broad Sts. PHONE No. 2155.

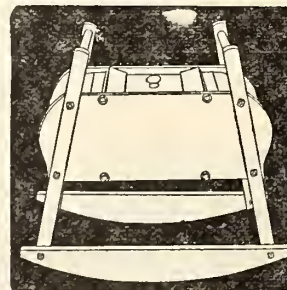
Nurseries, Brook Road Half Mile from City, and Hanover Co.

Wholesale and Retail Growers of **High Grade Nursery Stock,**
Shade Trees, Lawn Trees, Shrubs, Roses, Etc.

FRUIT TREES.

All the Standard and New Varieties. We have experienced men to plant trees and lay out grounds when desired. **Shade Trees a Specialty.** Catalogues mailed on Application.

AGENTS WANTED, Write for Terms. Liberal Commissions (Mention this Paper.)



The **ROCKER CHURN**

Gets the butter from the cream down to the one thousandth part. Made of tasteless wood and the churning process is entirely the result of its own motion—no machinery inside or out to get out of order or require oiling.

Its Special Advantages

are: 1—Simplicity. 2—Least friction. 3—Gravity does the churning; a child can operate it. 4—Absolutely no adjustments, always ready. 5—Nothing but the churn box to clean, easily accessible. 6—Violent agitation of cream without paddles or dashers. 7—Gives the finest grade of butter of any churn on the market. **WE PAY THE FREIGHT.**

Your money back if not satisfied. In eight convenient sizes, 8 to 60 gallons. Price as right as the quality. Illustrated circulars free. **Rocker Churn Mfg. Company, Forsyth, Georgia.**

Black Leg Vaccine

PASTEUR VACCINE CO. CHICAGO SAN FRANCISCO.

AGENT = WANTED

Good man in every county to sell

Osgood Standard Scales

for store, Factory and Farm.

most complete line made 1903-4 Patterns Steel Lever Lock Scales are beauties. Prefer man experienced in selling machinery and implements. Fine catalogue. No samples. Can be handled nicely as side line. Liberal contract. Exclusive agency. Have you that man in mind. Show him this paper. He can make money. We want him now. Act quick. Osgood Scale Co., 137 Central St., Binghamton, N. Y. Largest makers of Farm Scales in this country.

WANTED

A good live man who understands farming, desires to rent a farm; has 2 good men to work with him; will give half crops or pay cash rent; can give bond. Address "O. A. G." care Southern Planter.

FOR RENT.

A 400 acre farm, 100 of which is James river bottoms, none better; 300 acres clay, chocolate and gray soil; 300 acres arable. Buildings good, large new dwelling house. Nine miles from Richmond, Va., 1½ miles from electric cars, well watered, a good farm. Apply to JAMES BELLWOOD, R. F. D. No. 1, Manchester, Va.

"1,000 BOYS WANTED."

A thousand boys wanted, is the way the Ratekins' Seed House, of Shenandoah, start off their seed advertisement in this issue of this paper. This old reliable firm is among the oldest established seed houses in the United States, and their twentieth annual illustrated catalogue is one of the best that has found its way to our table. It is a fine affair of over 80 pages, and will be sent free to all who mention this paper. See their advertisements in another place in this paper, and send for it to-day, and be sure to say you saw their advertisement in this paper.

HALLOCK POTATO DIGGER.

Bonnerton, N. C., July 8, 1903.

Messrs. D. Y. Hallock & Sons,
York, Pa.

Gentlemen:

Enclosed you will find my check, which is to pay for the digger shipped to Mr. J. F. Cowell, Bayboro, N. C. He tells me that he is very much pleased with the digger, and that those who saw his work were well pleased, and that he was sure he could sell as many as thirty or forty this coming spring, and that he would want another for his fall crop. Now, Mr. Cowell says that he saved 3c. per bbl. on his crop, which would pay for the digger alone.

Yours truly, W. H. WHITLEY.

AFTER THE WEDDING.

He—"It certainly was a pretty wedding, and everything was so nicely arranged."

She—"That's just what I think; and the music was especially appropriate."

He—"I don't remember. What did they play?"

She—"The Last Hope."—Christmas Lippincott's.

A DANGER SIGNAL.

At a wedding in a church, noticing the dim religious red light that burns over the chancel, Teddy asked his bachelor uncle, "Is that a danger signal, Uncle Tom?" and Uncle Tom, who is suspected of hovering on the brink of a proposal, was heard to reply "Yes."—December Lippincott's.

— FOR SALE —

50 BARRED PLYMOUTH ROCK
Hens, last Spring's hatch, \$1.00 each.

E. M. SANDYS, Burkeville, Va.

"Feeds and Feeding"

Prof. Henry's Great Book for
Farmers and Stockmen.

Delivered anywhere for - - \$2.00
With the SOUTHERN PLANTER, 2 25

Peach and Apple Trees.



Bonavista Nurseries, Greenwood, Va.

We Offer a Fine Lot of Choice Trees for Spring Planting.

Our Apple Trees are the best:

Wine Sap, Mammoth Black
Twig, York Imperial and Al-
bemarle Pippin, all Perfect and
Well-grown Trees.

Our Peach Trees are the Standard Sorts.

Stump, Elberta, Bilyeu's
[Comet], Wonderful, Cham-
pion, Globe, Picquet's Late,
Albright's Winter, E. & L.

We send out none but good trees, and have never had a complaint made by any purchaser of our stock. Order soon, especially Peaches, as good trees will be very scarce this season.

CHAS. F. HACKETT, Manager.

THE SILK GROWING SEASON OF 1904.

The public interest in the revival of silk growing in the United States continues unabated. Substantial progress has been made during the year just closed and the prospects are good for increased output of silk cocoons the coming spring. Silk growing associations are being formed in many States, and public schools are introducing the study into their systems. Among the latest formed associations are the American Silk Growing Association of Vineland, N. J., of which the President is the well known financier, Hon. Wharton Baker, of Philadelphia. The Silk Growers' Association of Patchoque, Long Island, has been organized with Dr. Franklin Sylvester, of New York, as President. A number of towns in Michigan grew silk in 1903. In California the industry is centered about San Diego, where there are quite a number interested. In Georgia the Tullulah Falls Company are increasing their plant, and an industrial school to teach silk growing and domestic arts has been planned there and will soon be in operation. Steps are being taken to establish a school similar to that at Tullulah Falls in Western North Carolina. Silk culture in America has come to stay. When carried on as we have recommended, as a household industry to occupy spare time of the women, children and aged or feeble members of the family, silk growing cannot fail to fill an important place in our social economy. It will furnish useful and remunerated employment for labor otherwise unproductive. It will add to the comforts and happiness of the aged and young and poorer classes of our population. It will make country life more bearable to the young of both sexes who now look even to life in the factory towns as a relief from the hardships of the farm.

But silk reels and silk weaving mills must necessarily follow the establishment of silk farms, and the State which fosters silk growing will in the end secure a bountiful reward in general prosperity. North Carolina can easily and without detracting from any profitable industry already established add to the wealth produced in the State not less than \$6,000,000 annually. This is a sum worth striving for.

The North Carolina Department of Agriculture will import from Italy in February a sufficient quantity of silk worm eggs to supply all silk growers in the State who make application in time, or during the month of January. The prices of eggs will be the same as last year, viz: Per ounce, \$3.00; per one-half ounce, \$1.60; per one-quarter

—WANTED—

To buy some POLLED ANGUS Heifers or cows.

E. M. SANDYS, Burkeville, Va.

Your money back

if you are not satisfied

DO YOU SUPPOSE that a company with a capital of \$500,000.00, paid in full, and the proud reputation of 36 years of continuous success, would make such an offer and not carry it out to the letter?

DO YOU SUPPOSE we would jeopardize our standing with the public and our chances of still greater success by failing to fulfil any promise we make?

DO YOU SUPPOSE we would make such an offer if we did not have the utmost confidence in the satisfying quality of our goods?

WE KNOW we can please you and save you money, for HAYNER WHISKEY goes direct from our distillery to you, with all its original richness and flavor, carrying a UNITED STATES REGISTERED DISTILLER'S GUARANTEE OF PURITY and AGE and saving you the big profits of the dealers. That's why it's best for medicinal purposes. That's why it's preferred for other uses. That's why we are regularly supplying over a quarter of a million satisfied customers. That's why YOU should try it.

Direct from our distillery to YOU

Saves Dealers' Profits! Prevents Adulteration!

HAYNER WHISKEY

PURE SEVEN-YEAR-OLD RYE

4 FULL \$3.20 EXPRESS
QUARTS PREPAID

We will send you FOUR FULL QUARTS of HAYNER'S SEVEN-YEAR-OLD RYE for \$3.20, and we will pay the express charges. When you receive the whiskey, try it and if you don't find it all right and as good as you ever drank or can buy from any body else at any price, then send it back at our expense and your \$3.20 will be returned to you by next mail. How could an offer be fairer? We take all the risk and stand all the expense, if the goods do not please you. Won't you let us send you a trial order? We ship in a plain sealed case; no marks to show what's inside.

Orders for Ariz., Cal., Col., Idaho, Mont., Nev., N. Mex., Ore., Utah, Wash. or Wyo., must be on the basis of 4 Quarts for \$4.00 by Express Prepaid or 20 Quarts for \$16.00 by Freight Prepaid.

Write our nearest office and do it NOW.

THE HAYNER DISTILLING COMPANY

ATLANTA, GA. DAYTON, OHIO ST. LOUIS, MO. ST. PAUL, MINN.
158 DISTILLERY, TROY, O. ESTABLISHED 1866.



The Chesapeake & Ohio Railway

Extending from Cincinnati and Louisville, and

THROUGH ITS CONNECTIONS....

THE BIG FOUR SYSTEM, from Chicago, St. Louis, Peoria, Indianapolis,

Sandusky and Cleveland;

THE OHIO CENTRAL LINES, from Toledo and Columbus;

THE CINCINNATI, HAMILTON & DAYTON, from Detroit, Toledo, Lima and Dayton—

FORMS THE MOST DIRECT ROUTE.

And from Five to Twelve Hours the Quickest

TO STAUNTON, LYNCHBURG, CHARLOTTESVILLE, RICHMOND, PETERBURG, NORFOLK,

And Principal Virginia Points.

H. W. FULLER, Gen. Pass. Agt. C. & O. Ry., Washington, D. C.

ounce, 80 cents; per one-eighth ounce, 45 cents. No one without previous experience should attempt more than one-eighth ounce the first year. Those who have had experience and who have a supply of mulberry leaves at hand may attempt a full ounce. The Department will find a market for all the good cocoons produced in North Carolina this year at \$1.00 per pound for choked cocoons. There need be no fear that the market will be over-supplied. We can sell any amount at the price named. The Department makes no charge for its services to citizens of the State.

We can still supply to farmers only, rooted mulberry trees suitable for feeding silk worms for \$1.00 per hundred postpaid. A small number of copies of our silk Bulletin, No. 181, still remain, and will be sent free to those wishing to take up silk culture. A new circular giving estimates and detailed drawings for erecting scaffolding and building trays upon which to grow the worms will be issued next month. From these directions any one handy with tools can construct all the apparatus needed out of common pine lumber.

More silk growing associations should be organized in North Carolina.

This affords a good opportunity for far-seeing and philanthropic persons in every community to benefit their neighbors by organizing such associations and starting silk growing. The governing bodies of almshouses, hospitals and girls' schools should also take steps to introduce this industry with a view of enabling their populations to earn a little money each year without any great risk or hardship. Teachers in graded schools might well introduce the care of silk worms as a species of nature study as well as a profitable art.

Applications for silk-worm eggs and mulberry trees should be made to the undersigned and must in every case be accompanied by the full amount of cash in postage stamps or money orders. Address

GERALD MCCARTHY, *Biologist*,
N. C. Dept. Agriculture, Raleigh, N. C.

HE SAW WHERE THE MISTAKE LAY.

The following interesting and pointed story is taken from Dr. Orison Sweet Marden's editorial, "Superiority, the Best Trade-Mark," in the February Success:

"Never put your name to a certifi-

cate of a piece of work, unless you know it is worthy," said Senator Geo. F. Hoar, in an address to students; "throw up your job first. Let no employer's command move you to do that which you know is wrong. The city of Lowell was built on the Merrimac river. Dams and canals were constructed to conserve the water power. There was no competent engineer for such work in America at that time. A young Englishman named Francis came over and was employed. He looked over the work already done. He learned that, sixty years before, there had been a great flood in the valley. He went to the directors of the company. 'Gentlemen,' he said, 'you must rebuild Lowell and the works.'

"We can't do that," was the answer; 'we have spent large sums, and must take a risk.'

"Then, gentlemen," said Francis, 'here is my resignation.'

"The directors reconsidered, and rebuilt under Francis' direction. In a year a flood came, and the town and the works stood the test. Under the former conditions, they would have been swept off the face of the earth. There is a lesson. Learn it."

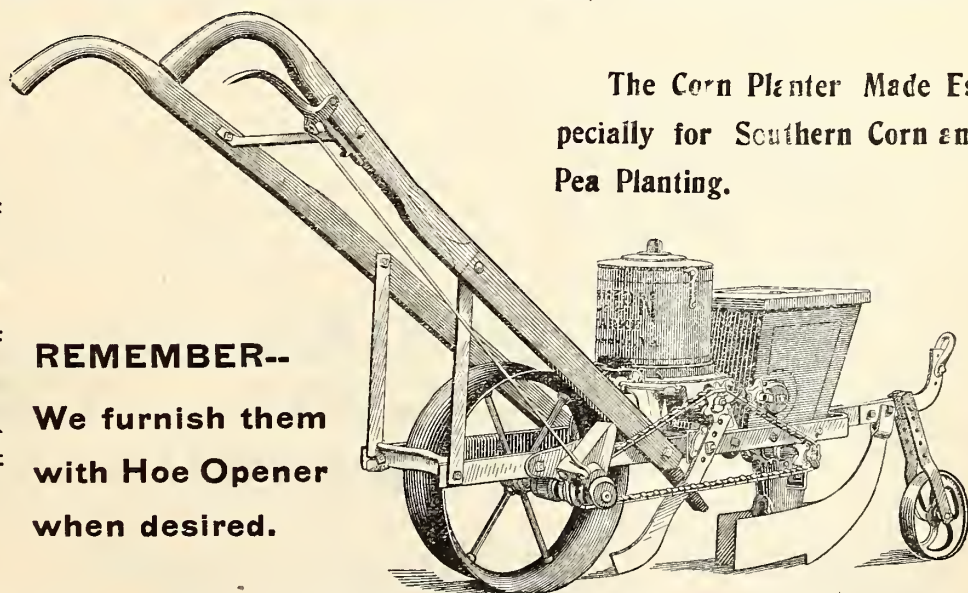
THE "STAR"

CORN

PLANTER

REMEMBER--

We furnish them
with Hoe Opener
when desired.



The Corn Planter Made Especially for Southern Corn and Pea Planting.

It does, and does well, everything a planter should do.

Drills or drops at any distance any number of grains. It handles corn, peas, beans etc., equally well.

Every grain is seen as it falls to the ground.

The planters are furnished with runner openers or shovel openers.

Thousands in use all over the South, and demand increasing every year.

As of all good things, there are imitations, but see that you get the GENUINE WITH OUR NAME CAST ON THE TOP OF GRAIN HOPPER.

Don't be misled by being told some other planter is just as good; pay more if necessary and get a "STAR."

ASHTON STARKE, RICHMOND, VIRGINIA.

Our Clubbing List.

The following list of papers and periodicals are the most popular ones in this section. We can **SAVE YOU MONEY** on whatever journal you wish:

DAILIES.

	Price Alone.	With Planter.
Times-Dispatch, Richmond, Va.....	\$5 00	\$5 00
The Post, Washington, D. C.....	6 00	6 00
The Sun, Baltimore, Md.....	3 00	3 40
News-Leader, Richmond, Va.....	3 00	3 00

THI-WEEKLY.

The World (thrice-a-week), N. Y....	1 00	1 25
-------------------------------------	------	------

WEEKLIES.

Harper's Weekly	4 00	4 00
Harper's Bazaar	1 00	1 40
Montgomery Advertiser	1 00	1 00
Nashville American	50	75
The Baltimore Sun	1 00	1 35
Breeder's Gazette	2 00	1 75
Heard's Dairyman	1 00	1 35
Country Gentleman	1 50	1 75
Religious Herald, Richmond, Va....	2 00	2 25
Times-Dispatch, Richmond, Va.....	1 00	1 25
Central Presbyterian, " "	2 00	2 25
Horseman	3 00	3 00

MONTHLIES.

Wool Markets and Sheep	50	75
Dairy and Creamery	50	75
Commercial Poultry	50	75
All three	1 50	1 15
North American Review	5 00	5 00
The Century Magazine	4 00	4 25
St. Nicholas Magazine	3 00	3 25
Lippincott's Magazine	2 50	2 50
Harper's Magazine	4 00	4 00
Forum Magazine	3 00	3 25
Scribner's Magazine	3 00	3 25
Frank Leslie's Magazine	1 00	1 35
Cosmopolitan Magazine	1 00	1 35
Everybody's Magazine	1 00	1 35
Munsey Magazine	1 00	1 35
Strand Magazine	1 25	1 65
McClure's Magazine	1 00	1 35
Argosy Magazine	1 00	1 35
Review of Reviews	2 50	2 75
Blooded Stock	50	60
Successful Farming	1 00	75
Southern Fruit Grower	50	85

Where you desire to subscribe to two or more of the publications named, you can arrive at the net subscription price by deducting 50 cents from "our price with the PLANTER." If you desire to subscribe to any other publications not listed here, write us and we will cheerfully quote clubbing or net subscription rates.

Subscribers whose time does not expire until later can take advantage of our club rates, and have their subscription advanced one year from date of expiration of their subscription to either the PLANTER or any of the other publications mentioned.

Don't hesitate to write us for any information desired: we will cheerfully answer any correspondence.

We furnish NO SAMPLE COPIES of other periodicals.

Seed House of the South.

RED CLOVER,
MAMMOTH CLOVER,
CRIMSON CLOVER,
WHITE CLOVER,
LUCERNE CLOVER,
ALSYKE CLOVER,
BOKHARA CLOVER,
JAPAN CLOVER,
BUR CLOVER,



TIMOTHY,
ORCHARD GRASS,
RED TOP or HERDS GRASS,
KENTUCKY BLUE GRASS,
RANDALL GRASS,
TALL MEADOW OAT GRASS,
JOHNSON GRASS,
GERMAN MILLET,
BUCKWHEAT,
OATS and CANE SEED.

"Whatsoever One Soweth, That Shall He Reap."

We sell strictly reliable **FIELD AND GARDEN SEEDS** of every variety at **Lowest Market rates**, included in which are

RAGLAND'S PEDIGREE TOBACCO SEEDS.

WE ALSO SELL

Our Own Brands of Fertilizers

For Tobacco, Corn, Wheat, Potatoes, &c.

Pure Raw-Bone Meal, Nova Scotia and Virginia Plaster and Fertilizing Materials generally.

Parties wishing to purchase will find it to their interest to price our goods.

Samples sent by mail when desired.

Wm. A. Miller & Son,

1016 Main Street,
LYNCHBURG, VA.

Headquarters for Nursery Stock.

WHOLESALE
AND
RETAIL.

We make a specialty of handling dealers' orders.

ALL STOCK TRUE TO NAME.

Apples,	Nectarines,	Pecans,	Ornamental and
Pears,	Cherry,	Chestnuts,	Shade Trees,
Peach,	Quinces,	Walnuts,	Evergreens,
Plum,	Almonds,	Small Fruits,	Roses, Etc.
Apricots,			

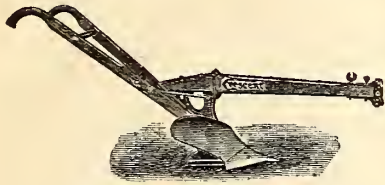
CALIFORNIA PRIVET, for Hedging.

WRITE FOR CATALOGUE.

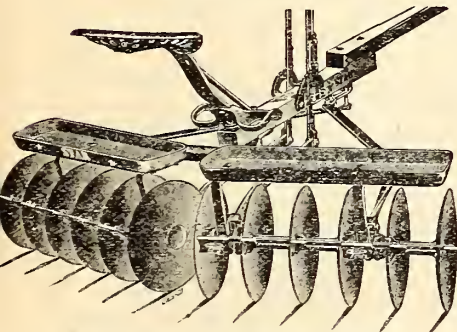
.. AGENTS WANTED. ..

FRANKLIN DAVIS NURSERY CO., [Baltimore, Md.]

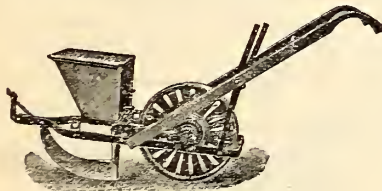
PERFECTED IMPLEMENTS FOR SPRING WORK.



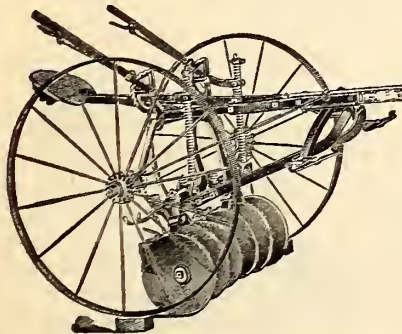
THE CRESCENT PLOW.



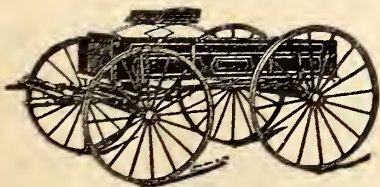
STAR HARROW—Steel Wrought Boxes.



SINGLE ROW PLANTER.



DISC CULTIVATOR.



IMPERIAL ONE HORSE WAGON.

WEEDERS, FERTILIZER DISTRIBUTORS, FIELD ROLLERS with solid Steel Heads, BALING PRESSES for Hand or Power, GRAIN DRILLS, FEED CUTTERS, PEA HULLERS, THRESHERS, ENGINES, SAW MILLS, GRINDING MILLS, &C., &C: Write for Prices.

13 So. Fifteenth Street,
Between Main and Carv.

To get the best results prepare your land with the WATT CROWN or CRESCENT PLOW, made in sixteen sizes and adapted to every variety of work in all kinds of soil. Guaranteed to be the best general purpose plows made and sold subject to approval by trial.

OUR ROAD PLOWS will enter hard ground when no other will.

DISC HARROWS with or without solid steel weight boxes. Most durable bearing with oil reservoir directly over axle free from dust and clogging. Anti Friction Rollers. Adjustable Seats. Easy to handle. Light in draft.

ALL STEEL LEVER HARROWS made up of sections of 25 teeth each. Instantly adjusted straight or steady by lever.

THE EMPIRE CORN PLANTER with or without fertilizer attachment The Lightest Planter Made. Plants any quantity, and distance accurately.

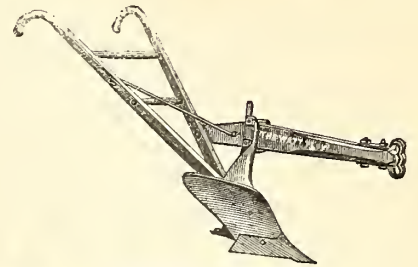
DOUBLE ROW PLANTER with or without Check Rower Drill and Fertilizer attachments. Adjustable in width, distance of drop and quantity.

DISC CULTIVATORS and HARROW combined. Made of steel and malleable iron. Light Draft, Great Strength, High Steel Arch, Steel Axle, Steel Wheels, adjustable in width. Discs adjustable in depth and at any angle.

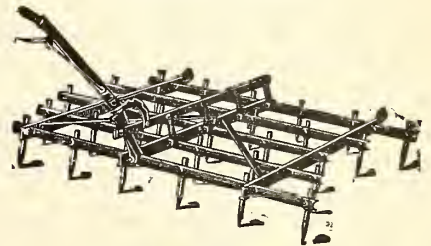
WALKING AND RIDING CULTIVATORS with four, six or eight shovels and spring teeth.

FARM WAGONS built of air-dried timber and all material the best that can be procured.

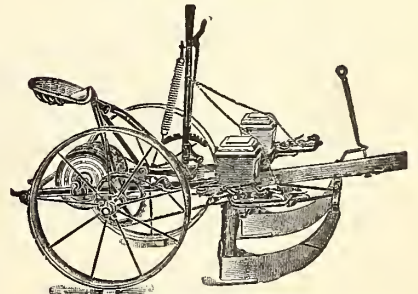
IRON AGE PATTERN CULTIVATORS and HARROWS, MALTA DURABLE SHOVEL PLOWS.



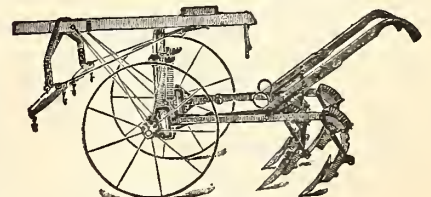
THE WATT PLOW.



LEVER HARROW.



DOUBLE ROW PLANTER.



WALKING CULTIVATOR.



THE NEW MOLINE.

RICHMOND, VA. THE CALL-WATT CO.

THE TOP PRICE FOR A COW.

General Russell A. Alger, former Secretary of War, and now junior United States Senator from Michigan, is said to have paid the record price for a cow—and that a dead one. Fifty-odd years ago he was an orphan in Richfield, Ohio, without a cent, and with but one suit of clothes. He wanted to attend school, and went to a doctor, who lived in a neighboring village, to ask for a chance to work for his board. The doctor did not need the services of a boy, but was so much impressed by young Alger's earnestness that he took him into his family and sent him to school. He did no work except to care for the doctor's horse and cow. The years sped on, and Russell A. Alger became a millionaire, while his benefactor was reduced to strained circumstances. One by one the doctor's children died, and he and his aged wife were left alone. But the old man kept his pride, and when General Alger assisted him he was forced to do so in roundabout ways. A dozen years ago the general paid the doctor a visit, determining to aid him.

"Why, Alger, you don't owe me anything," said the old man, "and I won't take anything."

"But I owe my education to you."

"Bosh! You owe that to yourself."

"But I caused you trouble and expense, for which I want to repay you."

"The trouble need not trouble you, and there wasn't any expense worth talking about. In fact, the only expense that you caused me, so far as I can remember, was the loss of a cow. Do you know, Alger, that, when you came to live with me, I had the best cow in these parts, and that your awkwardness completely spoiled her? Within three weeks you had made her so skittish that no one could go near her, and I had to sell her for beef."

"Then I owe you for that cow. I am going to pay you for her, and to add a little interest for the use of the money for about forty years."

After long argument the old man reluctantly consented to receive pay for his cow, and the check that General Alger drew to his order kept him in comfort for the remainder of his life.—Success.

A SAFE DIET RULE.

EAT THE SMALLEST AMOUNT OF FOOD THAT WILL PRESERVE GOOD HEALTH.

How shall one determine, then, how much food to eat? Too much mystery has been thrown about this subject. Let your sensations decide. It must be kept in mind that the entire function of digestion and assimilation is carried on without conscious supervision or concurrence. It should be entirely unfelt and unknown, excepting by the

feeling of *bien-etre* which accompanies and follows its normal accomplishment. *Satiety* is bad. It implies a sensation of fullness in the region of the stomach, and that means that too much food has been taken. The exact correspondence, in a healthy animal, between the appetite and the amount of food required is extraordinary. As a rule, the meal, unless eaten very slowly, should cease before the appetite is entirely satisfied, because a little time is required for the outlying organs and tissues to feel the effects of the food that has been ingested. If too little has been taken, it is easy to make it up at the next meal, and the appetite will be only the better and the food more grateful.

No one was ever sorry for having voluntarily eaten too little, while millions every day repent having eaten too much. It has been said that the great lesson homœopathy taught the world was this: That whereas physicians had been in the habit of giving the patient the largest dose he could stand, they have been led to see that their purpose was better subserved by giving him the smallest dose that would produce the desired effect. And so it is with food. Instead of eating, as most people unfortunately do, as much as they can, they should eat the smallest amount that will keep them in good health.—February Century.

Merchants National Bank, Richmond, Virginia.

JOHN P. BRANCH, President.

JOHN KERR BRANCH, Vice-President.

JOHN F. GLENN, Cashier.

Comparative Statements for the Following Years:

ASSETS

CLOSE OF BUSINESS ON DEC. 31.	1888.	1893	1898	1903.
Time and Demand Loans	\$ 667,661 76	\$ 788,099 01	\$ 1,029,973 19	\$ 1,367,607 95
Real Estate, Furniture, Etc.	60,000 00	79,093 71	75,767 42	72,103 93
Five Per Cent Redemption Fund	2,250 00	9,000 00	5,625 00	10,000 00
United States Bonds for Circulation and deposit	525,000 00	421,000 00	998 100 00	761,000 00
State and City Bonds for United States Deposits .....	.....	.....	.....	293,500 0
Premium on United States Bonds	90 000 00	20,000 00	45,000 00	25 000 00
Miscellaneous, Stocks and Bonds	8,480 00	133,142 50	364,826 83	566,622 43
Cash and Due from Banks	301 787 38	341,023 17	1,140,676 23	1,941,077 73
Total	\$ 1,655,179 14	\$ 1,791,358 39	\$ 3,659,968 67	\$ 5,036,912 04

LIABILITIES.

CLOSE OF BUSINESS ON DEC 31,	1888.	1893.	1898	1903
Capital Stock	\$ 200,000 00	\$ 200 000 00	\$ 200,000 00	\$ 200,000 00
Surplus and Profits	1 8 12 76	215 991 53	316 931 91	660 120 19
Circulation	45 000 00	180 000 00	111,400 00	200,000 00
Deposits	1,292,006 38	1,195,366 83	2,971,536 76	3,685,191 85
Bond Liability Account .....	.....	.....	60,100 00	291 600 00
Total	\$ 1,655,179 14	\$ 1,791,3 8 39	\$ 3,659,968 67	\$ 5,036,912 04

This bank does a general banking business and respectfully solicits the accounts of individuals, corporations and banks, promising every facility which their balances, business and responsibility warrant.

We make a specialty of our collection department, and such business given us will have careful and prompt attention.

We pay three per cent. interest on deposits in our savings department or on certificate of deposit, payable on demand and bearing interest from date of deposit.

United States, State and City Depository.

A. C. SINTON, President,

R. R. GWATHMEY, Vice-President,

J. J. SUTTON, Secretary,

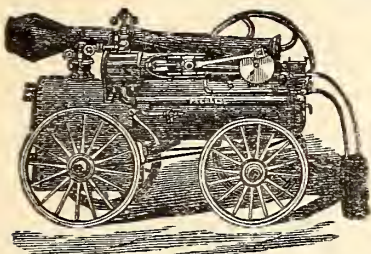
ESTABLISHED 1840.

THE WATT PLOW CO.,

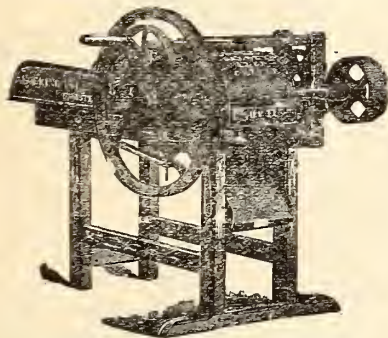
INCORPORATED 1893.

15th & Franklin and 14th & Main Sts., Richmond, Va.

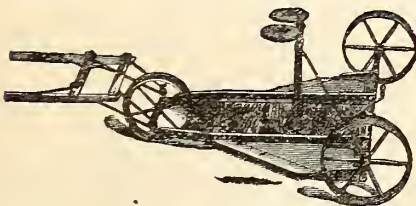
Agricultural Implements, Machinery, Vehicles and Harness.



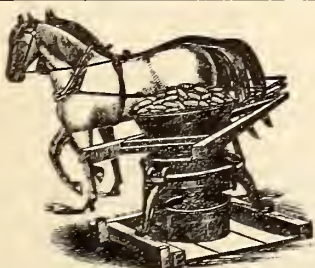
PEERLESS ENGINE.



HOCKING VALLEY FEED CUTTER.



DAIN CORN CUTTER.



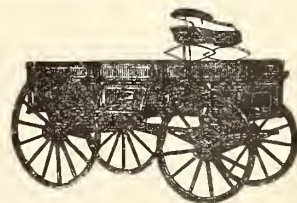
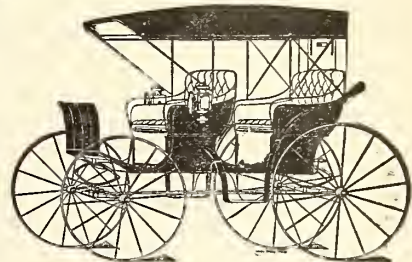
STAR SWEEP MILL.



SECTIONS OF WIRE FENCE.



SPIKE HARROW.



A full stock always on hand, and prompt shipments guaranteed. South Bend, Dixie and Farmer's Friend Plows and repairs. The Hancock Rotary Disc Plow, warranted to go in the ground where all others fail.

Hocking Valley Feed Cutters, Cyclone Shredders, Smalley Feed Cutters, Dain Corn Cutters. Equal to any made. Staver Buckeye Feed Mill and Horse Power Combined. Star Sweep Mill. Either grinds corn on cob or shelled.

Whitman All-Steel, full circle Hay Presses. George Ertel Company's full circle Hay Presses. Rapid Fire Horse Power Hay Press, for one horse, a good, cheap press. Will put up from 150 to 200 bales a day. The well known Minnich Brand Baling Presses.

Hocking Valley Wine and Cider Mills. Hard wood rollers. The best mill made.

Hocking Valley Corn Shellers, for hand or power. Smalley Electric Pole and Wood Saws, for steam or horse power. Peerless Engines and Saw Mills always in stock. Several good second-hand Engines and other second-hand machinery for sale. "Pittsburgh Perfect" fencing, electrically welded. See cuts showing weld. Barb Wire, Plain Galvanized Wire, Baling Wire and Bale Ties. Continental Disc Harrows, Buffalo and Lean Spike Harrows.

The celebrated Columbus, Ohio, Buggies, Carriages, Runabouts, and Traps. Farm Wagons and Delivery Wagons, a complete stock.

Correspondence solicited.

THREE SPECIAL COURSES OFFER- ED AT THE STATE UNIVERSITY, KNOXVILLE, TENN.

Three special courses are being offered this winter to the farmers of Tennessee at the State University. The first of these covers work in cereal judging and practical feeding and commences on January 18. The course is designed to give the farmers of the State an opportunity to learn something about the methods of selecting and improving corn and other leading cereals and how to feed the live stock of the farm to the best advantage.

The stock feeding work is carried on in the experimental barns. It includes practical work in feeding dairy and beef cattle, swine, etc. In the time devoted to the subject one can learn the best methods of combining food-stuffs and preparing rations for the different classes of live stock so as to secure the largest profit from their use.

The work in stock judging and dairying commences on February 1. The course provides training in judging and handling the different classes of farm live stock. Work with the score card is an important feature. The student is brought in direct contact with living animals and their good and bad points called to his attention. In dairying he is familiarized with the operations of butter and cheese

making and the testing of milk.

The course in farm poultry commences on February and lasts one week. It is under the direction of Mr. T. E. Orr, of Beaver, Pa., Superintendent of Poultry at the World's Fair and Secretary of the American Poultry Association. Mr. Orr is a recognized authority on the subject and will give a series of lectures and demonstrations on judging and handling the different classes of fowls and on the breeding, feeding and management of the same.

These three special courses should be attended by hundreds of farmers as the information to be derived from a visit to the Agricultural College and Experiment Station in itself would more than pay one for the time and money expended, not to speak of the valuable instruction that can be obtained at the same time.

Those intending to take any of these courses should communicate with Prof. Andrew M. Soule, Knoxville, Tenn., at the earliest possible date so that satisfactory arrangements can be made.

Mamma: "Willie, shut that window screen. You're letting the flies in."

Willie: "Well, you've got to let some of 'em in."

Mamma: "Why?"

Willie: "'Cause if you don't let 'em in, how are they goin' to get on the fly paper?"

A rather simple-looking lad halted before a blacksmith's shop on his way from school, and eyed the doings of the proprietor with much interest. The brawny smith, dissatisfied with the boy's curiosity, held a piece of red-hot iron suddenly under the youngster's nose, hoping to make him beat a hasty retreat. "If you'll give me half a dollar, I'll lick it," said the lad. The smith took from his pocket half a dollar, and held it out. The simple-looking youngster took the coin, licked it, and slowly walked away, whistling.

When "Long John" Wentworth, a famous Chicago character, was a candidate for mayor of that city, there was a vigorous discussion over a two-headed calf on exhibition in Clark street.

Somebody had asked the question whether the calf was two calves with one body or one calf with two heads. The city was all torn up about it. There were letters in the newspapers, and many acrimonious domestic and public discussions. At length it was decided to leave the matter to Mr. Wentworth.

A committee waited on him and stated the case.

Wentworth listened to the arguments carefully. Then made this decision: "Inasmuch as I am a candidate for mayor, I decide that both sides are right."

W. J. CARTER, ["BROAD ROCK."]

TURF JOURNALIST.

Address P. O. Box 929, - - - Richmond, Va.

Pedigrees traced and tabulated, stud circulars prepared, special attention paid to registration of thoroughbred and trotting horses.

Representing the

Times-Dispatch, Richmond, Va.

Southern Planter, Richmond, Va.

Sports of the Times, New York.

Breeders and Sportsmen, San Francisco, Cal.

==FOR SALE==

40 Head Fine Mules,

Large, sound and grand lookers. Having finished a contract these Mules will be sold at bargains. Do not write for prices but come and look them over.

SIDNEY P. CLAY, 601 North 31st Street, Richmond, Va.

GREAT STAKES, 25521.

Record, 2:20.

Sire of Captain, 2:16½; Foxhall, 2:19½, etc. Bay horse, by Billy Thornhill, 2:24, dam Sweetstakes, by Sweep Stakes, 2:23. Fee, \$25.00 the season.

W. H. NELSON, 1428 East Franklin St., Richmond, Va.

KELLY, 22283. Record, 2:27.

Sire of McChesney, 2:16¾, Etc.

Bay horse, by Electioneer 125, first dam Esther, dam of Expressive 3, 2:12½; Express, 2:21, etc.; by Express, second dam, Coliseum, by Colossus.

Kelly represents the highest type of a trotter, having grand size and the form and finish of a thoroughbred.

FEE, \$25 the season.

W. J. CARTER, Richmond, Va.

Kelly will serve at my private stables, 1102 Hull St., Manchester, Va.

WEALTH, 29579. Record, 2:10.

Bay horse, 16 hands high, by Gambetta Wilkes, 2:19½; dam Magnolia, by Norfolk, 3:70.

Note—As a prolific sire of speed and race horse quality Gambetta Wilkes is unexcelled.

FEE, \$25.00 the season.

W. H. CHAPMAN, Gordonsville, Va.

BURLINGAME 26235. Record, 2:18¼.

Brown horse, by Guy Wilkes, 2:15½, dam Sable, dam of Sable Wilkes, 2:18, etc., by The Moor, 3:70.

N. B.—Very fast and a great show horse.

FEE, \$25.00.

Lissak, bay horse, by Burlingame, dam Helice, dam of Clarion, 2:15½, by Norval, 2:14½.

FEE, \$15.00. Address,

SPRING GARDEN FARM,

Cool Well, P. O., Amherst Co., Va., or
ROBT. TAIT, Norfolk Va.

START - THE - NEW - YEAR - RIGHT

By Purchasing Your Supplies At

J. S. MOORE'S SONS,

Wholesale and Retail..... Grocers and Feed Dealers.

18TH & MAIN STREETS, - RICHMOND, VA.

We quote prices on a few articles in our enormous Holiday Stock.
Look over the list and send us your orders. If you don't see
what you want mentioned here, write for prices on it.

Florida Oranges .....	.25 doz.	New Orange Peel	12 1-2 lb.
California Oranges .....	.12 doz.	New Lemon Peel	12 1-2 lb.
Fine Apples .....	.25 pk.	Choice Evaporated Peaches, 9c, or 3 lbs for	.25
Large Lemons .....	.12 doz.	Fresh Country Butter .....	.22 lb.
Best French Candy .....	.15 lb.	N. C. Corn Whiskey.....	\$2.00 gal.
Choice French Candy	12 1-2 lb.	7-year-old Maryland Rye	4.00 gal.
Good French Candy	8 and 10 lb.	Old Crown Rye	3.00 gal.
Plain Mixed Candy .....	.08 lb.	Old Keystone Rye	2.50 gal.
Chocolate Drops .....	.15 lb.	Old Excelsior Rye	2.00 gal.
Fine Buttercup Candy, 5-lb. pails.....	.75 each	Old Capitol Rye	1.50 gal.
Sultana Raisins	10 and 12 1-2 lb.	California Sherry Wine	1.00 gal.
Best New London Layer Raisins.....	.10 lb.	Imported Sherry Wine	3.00 gal.
New, Clean Currants	8 and 10 lb.	Catawba Wine .....	.45 gal.
Best Muscatel Raisins .....	.09 lb.	Jamaica Rum	3.00 gal.
New Seeded Raisins .....	.10 lb.	New England Rum	2.50 gal.
New Figs .....	.08 lb.	Virginia Apple Brandy, 4 years old.....	3.00 gal.
New Figs, 1-lb. package.....	.10 lb.	Maryland Apple Brandy	2.50 gal.
New Dates, 6 lbs. for.....	.25	B. B. Brandy .....	.45 gal.
New Dates, 1-lb. packages.....	.06	Port Wine	1.00 gal.
New Mixed Nuts .....	.12 lb.	Pure Apple Cider .....	.25 gal.
Best Soft Shelled Almonds .....	.15 lb.	Geneva Gin	2.50 gal.
Best Shelled Almonds .....	.30 lb.	Holland Gin	2.00 gal.
Best Pecans	12 1-2 lb.	Virginia Mountain Whiskey, 4 years old..	3.00 gal.
Best Filberts	12 1-2 lb.	Duffy's Malt Whiskey .....	.80 bot.
Best Palm Nuts	12 1-2 lb.	Wilson Whiskey	1.00 bot.
Best English Walnuts .....	.15 lb.	Fulcher Whiskey	1.00 bot.
Best Cocoanuts .....	.04 each	Buchu Gin	1.00 bot.
New Citron .....	.14 lb.	Paul Jones Whiskey	1.00 bot.

These prices are for cash strictly before goods are delivered. Post-office orders or registered letters must accompany all orders.

WE - WANT - TO - BE - YOUR - GROCER.

A trial order will convince you how easy and cheap it is to "go to market" by mail.

Latest Improved FARM IMPLEMENTS.

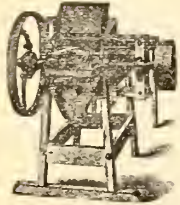


HAND POWER CUTTER.

These machines sell at sight. They have heavy fly wheels and make three cuts to each turn of the crank. They will cut hay, straw or fodder, and will cut from $\frac{1}{2}$ to 2 inches. They are shipped K. D., securing the lowest possible freight rates.

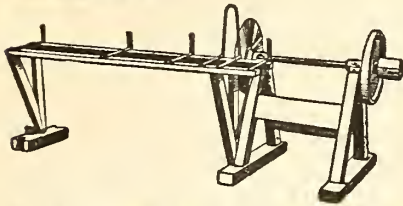
LITTLE GIANT CORN SHELLER.

The frame is made of thoroughly dry hard wood. The joints mortised tenoned and bolted. The bearings are bolted on the frame instead of screwed. The iron work is made from the very best material, every piece is carefully inspected before being put on. This machine is high-grade all the way through. It is handsomely painted, striped and varnished.



ROSS....

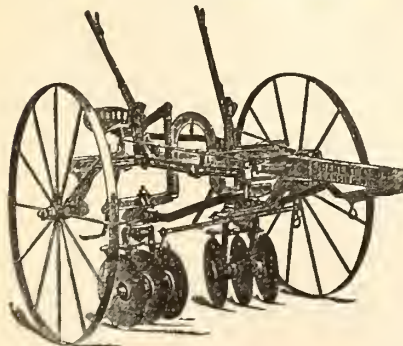
Fodder Cutters, Fodder Shredders, Cutters for all purposes, Corn Shellers, Grinding Mills, Horse Powers and Wood Saws.



Wood Saws for long or short wood. Wood or Steel frame.

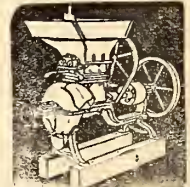
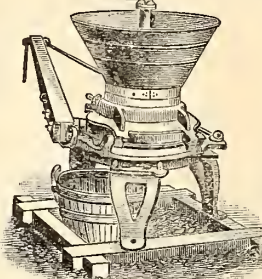
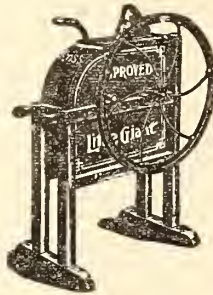


Kemp's Improved Manure Spreader. Three Sizes.



Bement Disc Cultivator,
with 6 or 8 Disc.

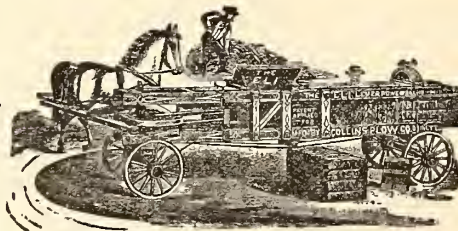
Built entirely of steel, steel forgings and malleable iron. The most simple and easiest adjusted cultivator on the market to-day. Write for circulars and testimonials.



POWER MILLS in five sizes
2 to 30 horse-power

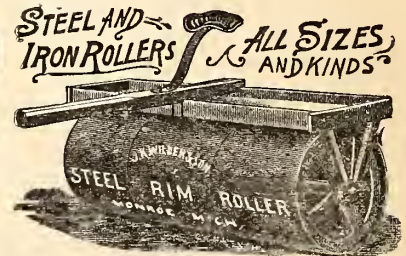
Scientific Sweep Mills in five sizes,
Geared—plain and combined, with
horse-power.

Aspinwall Planters, Potato Sorters
and Cutters.



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Write for prices and catalogues.



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may need.**

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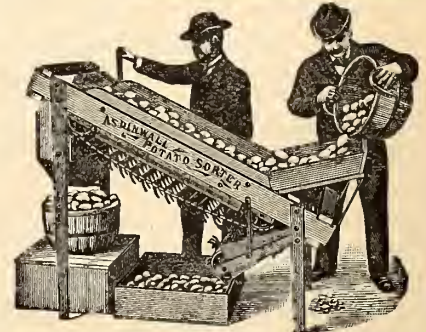
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One and Two-Horse Planter, Plain
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Special prices given on Studebaker
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Aspinwall Planters, Potato Sorters
and Cutters.

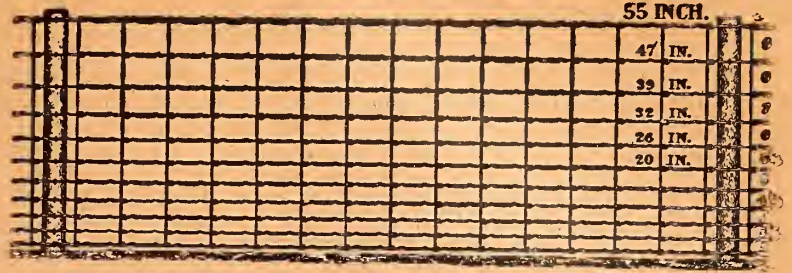
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Automatic, Accurate and Reliable.
Used by thousands of practical grow-
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write for attractive illustrated cata-
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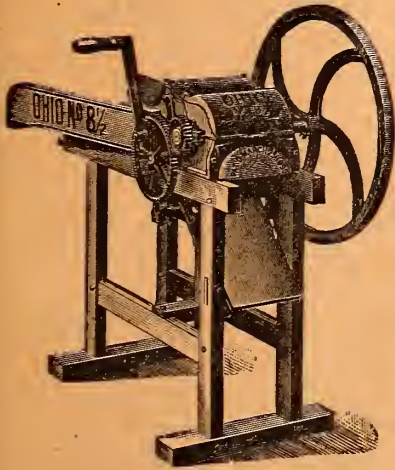
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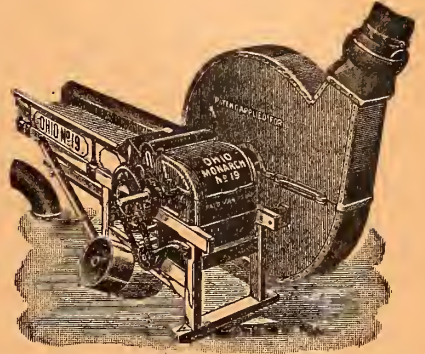
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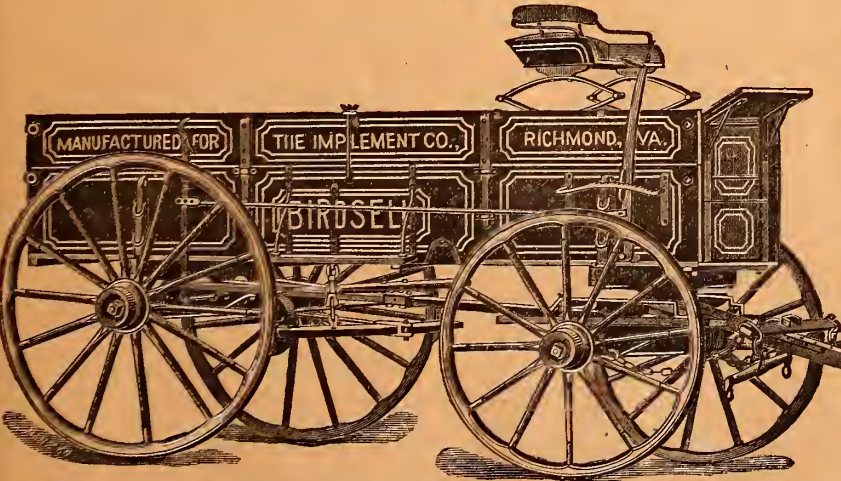


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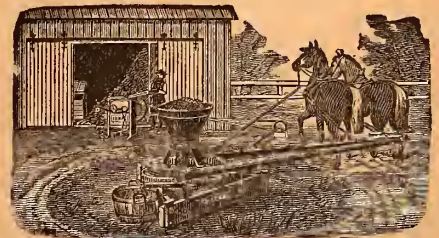
IDEAL DUPLEX FEED MILLS for steam power are very strong and grind rapidly.



The BIRDSELL with STEEL SKEINS

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